Missouri Botanical Garden

bulletin

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photo by Koraley Northen

President's Comment

This fall I traveled to the 12th Conference of the United Nations Convention on Biological Diversity in Korea. I was given the opportunity to address delegates from 187 governments, pledging the Garden's support of their commitment to plant conservation. While we can be very proud that the Garden holds an important position of influence and helps shape world policies on biodiversity and the environment, we also acknowledge our responsibility as a member of the local, regional, and global community. Our work in science, education, public awareness, conservation, horticulture, and sustainability has never been more important than it is today (see page 9).

In this issue of the *Bulletin* focused on our conservation work, I hope you find a renewed passion for the Garden—from our beautiful plant displays and collections such as our orchids (see page 16) to our outreach programs that bring conservation closer to the community (see pages 12 and 15). The Garden's mission to preserve and prevent any future loss of biodiversity touches on every branch of our organization, and your support is vitally important to the Garden, St. Louis, and make no mistake, to the world as well.

As we reflect on another successful year at the Garden—one that looked at how we connect and grow with nature and plant a better future—my hope is that botanic gardens become a common ground for all of us, a beacon of peace, optimism, reconciliation, and common cause, cherishing and protecting our natural environment. Here's to a greener tomorrow! Here's to 2015!



Dr. Peter Wyse Jackson,
President

Did you know?

Your membership provides critical support for our international and local plant science and conservation work, and Garden memberships contribute 21% of our annual operating funds.

Plus, as a Garden member:

- You receive free admission for two adults and all children (12 and younger) at Shaw Nature Reserve and the Butterfly House.
- Special Member Days offer you exclusive activities, tram rides, and discounts in the shops and café.
- The Children's Garden is free to you all day Tuesday (April–October).
- The Garden is open for members only on Tuesday evenings in the summer.
- You are eligible for free or reduced-price admission to over 270 botanical gardens and arboreta across the U.S. and Canada.

Visit **www.mobot.org/membership**, email **membership@mobot.org**, or call (314) 577-5118 to learn more.

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Garden Hours

The Garden is open 9 a.m. to 5 p.m. seven days a week except during holiday hours (November–January). Closed on Christmas Day. The Garden stays open on Wednesday evenings from 5 to 8 p.m. from Memorial Day through Labor Day. Visit **www.mobot.org** for more information.

General public outdoor walking hours begin at 7 a.m. Wednesdays and Saturdays.

General Admission

$8 ($4 for residents of St. Louis City and County); children 12 and under are free. Garden members receive free admission (based on level).

Children's Garden: $5 for children; adults admitted free. ($3 for Garden member children.) Member children admitted free on Tuesdays. Open April through October.

Contact

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On the Cover

Tower Grove House gets decked for the holidays in traditional Victorian style every year. Photo by Dilip Vishwanat.

Credits

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The Missouri Botanical Garden *Bulletin* is printed on paper containing 100% post-consumer recycled content, that is, paper that you might have placed in the recycle bin in your home or office this year. It is manufactured using biogas, a renewable energy source. We print locally, so there is no long-haul transportation, and we're reinvesting in our community. We work hard to choose the most environmentally responsible paper around. So if you aren't quite ready to go completely electronic with our online version, you can still enjoy your paper *Bulletin* in good conscience. Once you've read it, please recycle.

photo by Heather Marie Osborn

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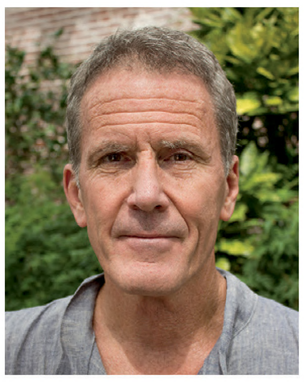
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To discover and share knowledge about plants and their environment in order to preserve and enrich life.

– mission of the Missouri Botanical Garden

News

Ecological Restoration Experts Join the Garden



The Missouri Botanical Garden welcomed two staff members in the fall as part of a new ecological restoration program. Dr. James Aronson joined the Center for Conservation and Sustainable Development (CCSD) in September. A restoration ecologist with 25 years of experience in the field, Dr. Aronson has worked as a government researcher at the Center for Functional and Evolutionary Ecology in Montpelier, France. He is the co-founder of the Restoring Natural Capital Alliance and co-editor of *Restoring Natural Capital: Science, Business, and Practice*, which built upon a groundbreaking workshop at the Garden in 2005 involving ecologists, economists, land managers, and policymakers.



Dr. Leighton Reid also joined the CCSD, where he will work restoring tropical forests and local Missouri ecosystems. He received his bachelor of science in environmental studies at Sewanee: University of the South and his PhD in the same field at the University of California–Santa Cruz. His research aims to understand the reciprocal relationships between plants, animals, and people in order to improve our collective ability to restore damaged ecosystems.



photo by Glenn Beffa

Reserve Participates in Annual River Cleanup

As part of Shaw Nature Reserve's natural surroundings, the Meramec River is host to a great diversity of plant and animal communities. Unfortunately, it also suffers from damage caused by flooding and littering. As part of The Open Space Council's Operation Clean Stream, the Reserve has been cleaning up the section of the Meramec River from Robertsville State Park to the eastern edge of the Reserve for over 30 years.

In late August, General Operations Supervisor Glenn Beffa organized 28 volunteers, including members of a local Boy Scouts troop, to pick up a half ton of trash along the river. Without the annual efforts of these volunteers, that material would remain at the bottom of the river indefinitely. "They had fun and accomplished some much-needed cleanup work," says Reserve Director John Behrer.

Garden Receives IMLS Grant to Connect Children with Nature

The Garden received a $140,605 grant from the Institute of Museum and Library Services (IMLS) to develop its Innovative Modeling Across the Garden to Investigate Neighborhood Ecology (IMAGINE) program. By bringing together the Garden and six local schools, the three-year program seeks to increase the students' interest in the science, technology, engineering, and math (STEM) fields; their awareness of the Garden as a science research institution; and their engagement with the community through different neighborhood projects.

Dr. Bob Coulter, director of the Garden's Litzsinger Road Ecology Center (LREC), will oversee the program. As a research facility, LREC supports intensive and

sustained partnerships such as the ones being forged in IMAGINE. "IMAGINE offers a model that fundamentally rethinks the ways in which informal institutions work with schools," he says. "Rather than the standard one-off field trip model, IMAGINE breaks new ground aligning institutional research and the use of advanced modeling techniques to make the research come to life in age-appropriate ways."

Using MIT-developed modeling software students will investigate environmental issues, such as invasive species and drainage problems, affecting the ecosystems in their communities. With this data, they'll develop models to predict the impact of such issues on the environment over time. IMAGINE is the fourth Garden project developed in partnership with MIT's Scheller Teacher Education program. The Garden was previously awarded more than $3 million in three National Science Foundation grants that have included substantial technology development work subcontracted to MIT.



photo by Chrisine Siebert

YOUR GUIDE TO

GARDEN GLOW

Presented by WELLS FARGO ADVISORS

THE BASICS

- Open Wednesday through Sunday evenings from November 22 through December 18; open nightly from December 19 through January 3.
- Open Thanksgiving; Closed Christmas Eve, Christmas Day, New Year's Eve.
- The Garden will close at 4 p.m. and the Climatron will close at 3 p.m.
- Members get discounted Garden Glow tickets and free admission to Gardenland Express.
- You can purchase tickets online at **www.mobot.org/glow** and print them at home. This will allow you to skip the ticket lines and go straight to the scanning stations. You can also call (314) 678-7442 for tickets and information.
- Tickets are date- and time-specific: every 20 minutes from 5:30 to 6:30, every 30 minutes from 6:30 to 7:30, and every 20 minutes from 8:00 to 8:40 p.m.

KNOW BEFORE YOU GO

- The exhibit is primarily outdoors, so dress accordingly.
- Visit **www.mobot.org** or follow the Garden on Facebook or Twitter for updates if the Garden cancels the event due to inclement weather.
- Garden Glow has been expanded to include more than 30 installations. Expect to walk slightly over one mile to experience every element. There are benches along the paths.
- Wheelchairs and scooters are available on a first-come, first-served basis.
- Trams will not be in operation.
- Parking available in the main parking lot and the Metro multi-modal lots at the corner of Shaw Blvd. and Vandeventer Ave.

ENJOYING GARDEN GLOW

- For food and beverages, visit Sassafras café, several booths throughout the exhibit, and Café Flora Wine Bar at Spink Pavilion.
- S'mores fire pits are located along the Central Axis.
- Tower Grove House is open and decorated in Victorian style (see page 20).
- Restrooms in Ridgway Visitor Center, Spink Pavillion, and Museum Building. Porta-potties by the Administration Building.

www.mobot.org/glow

Signature Location sponsorship by The Boeing Company, Lelia and David Farr, and Monsanto. Special Venue sponsorship by Ameren, BSI Constructors, Bunge North America, Laclede Gas Company, Maritz Holdings, Moneta Group–Dan and Peggy West, PNC Bank, Sigma-Aldrich, and UMB Bank.

News cont.



Vice President of Conservation and Sustainable Development Olga Martha Montiel (left) and Senior Vice President of Science and Conservation Dr. James Miller (right) honored Dr. Graham at the symposium. (photo by Tom Incrocci)

Fall Symposium Honors Dr. Alan Graham

The Garden hosted its 61st Annual Systematics Symposium in October, with international speakers discussing how new fossil discoveries can be used to improve the ability to date phylogenies, which in turn strongly influences the understanding of macroevolution. The symposium was dedicated to Garden Curator of Paleobotany & Palynology Dr. Alan Graham, on the occasion of his 80th birthday in 2014, and his contributions to the understanding of the geologic history of New World vegetation and ecosystems.

As part of the homage, MBG Press published a Festschrift of 14 papers honoring Dr. Graham. The papers were prepared by 56 of his friends and colleagues representing 15 nationalities and working in 27 institutions.

Dr. Graham and his wife Shirley have also been strong supporters of the Garden for many years. Their generous donations support ongoing research programs, special projects, and the Shirley A. Graham Fellowships in Systematic Botany and Biogeography. The Garden is grateful for the support these outstanding scientists bring to our research and conservation programs.

Royal Society of London Grant Helps Understand Plants and Climate Change

The Garden's Center for Conservation and Sustainable Development (CCSD) received a grant from the Royal Society of London to collaborate with two scientists from the Royal Botanic Garden Edinburgh (RBGE) on the project "Species Level Biome Response to Climate Change in Andean South America." The grant aims to build a collaborative research program in biome ecology and evolution between the two gardens.

The scientists will use specimen data from the herbaria at the Garden and RBGE to estimate species' current environmental and spatial distributions and to model their responses to potential future climatic conditions. In doing so, they will consider how species with different functional traits (e.g., leaf length and area, wood density) and life history traits (e.g., annual, perennial) will respond to climate change. Using DNA sequencing, they will also measure the ways in which plants have responded to climate change in the past, model their ecological traits' evolution, and determine whether they have the capacity to adapt to conditions likely to occur in the future.



As part of the botanical exchange program, the Garden hosted three botanists from Russia this fall. (photo by Dave Gunn)

Botanical Exchange Program Receives U.S. Department of State Grant

In September, the U.S. Department of State awarded a $99,987 grant to the Garden to strengthen its U.S.–Russia Botanical Exchange Program. The project aims to promote plant conservation by improving communication between Russian



and American botanists. It includes the development of a bilingual website fully tied into an array of social media, a Skype network between 10 Russian and 10 U.S. botanical gardens, and two joint expeditions to areas of conservation concern in the Ural Mountains of Russia and to the threatened alpine habitats in Colorado.

Established in 1972, the program fosters both institutional and peer-to-peer relationships, for which effective, modern communication technology is required. "Engaging the next generation of botanical and conservation staff in both countries is critical to the future success of the program," says Vice President of Horticulture Andrew Wyatt. "This grant is aimed at the critical upgrades needed to achieve this."

In Memoriam: Jack Jennings

Jack Jennings passed away on August 10. After working in the McDonnell Douglas McAuto division for 25 years, he retired to pursue his true love: photography. He began photographing the Garden in 1978, and his iconic images appeared in Garden publications for more than two decades, including the calendar and the *Bulletin*. In 2007, he was awarded the Henry Shaw Medal for his exceptional photographs and artistic expertise. In 2003, he published a coffee-table book of his work, *Seasons: 25 Years of Photography at the Missouri Botanical Garden*, in conjunction with an exhibit at the Garden.

In Memoriam: Laura Orthwein

Laura Orthwein passed away on September 15. She and her late husband Bill were incredible supporters of the Garden's development and mission for many decades. Their influence can be seen in the Orthwein Floral Display Hall and the Pollination Garden in the Doris I. Schnuck Children's Garden. They also supported the development of the Japanese Garden for cultural beauty, the Monsanto Center for research, and endowment for the Garden's future. Laura was also an active volunteer at the Garden and many other St. Louis organizations, chairing special galas and fundraising events for a variety of charitable causes.

In Memoriam: Bob Tschudy

Bob Tschudy passed away on September 18. He and his wife Jane have been ardent supporters of the Garden for many decades. Their influence can be seen across the Garden, from the planting beds of the William T. Kemper Center for Home Gardening to the current *Garden for the World* capital campaign. Bob was also a committed family man, community leader, volunteer, and entrepreneur. He was passionate about the education of children and supportive of the Garden's role as an education center and cultural icon.

The Garden and its visitors will forever be enriched by the years of support we have received from these generous friends.



Garden researchers led a workshop about preparing high-quality assessments to publish a IUCN Red List. (photo courtesy of Mauritian Wildlife Foundation)

Garden Leads Assessment Workshop in Mauritius

Dr. George Schatz, Garden Curator, and Dr. James Miller, Senior Vice President of Science and Conservation, traveled to Mauritius in October to lead an International Union for Conservation of Nature (IUCN) Red List Assessor Training Workshop for the assessment of the country's flora. The IUCN Red List of Threatened Species is considered the most comprehensive approach for evaluating the conservation status of plant and animal species and is therefore an important tool to manage conservation efforts and to guide policymakers.

The Red List assessment of this richly biodiverse country is a top priority for the Mascarene Islands Plant Specialist Group (MIPSG), which is leading the initiative in collaboration with the Mauritian Wildlife Foundation (MWF) and the Garden. During the workshop, MISPG members learned about the Red List assessment process, its categories and criteria, and other requirements. It was also an opportunity to foster collaboration among government, non-government, and private stakeholders.

News cont.

Record Membership Numbers At Fall Events

During this year's fall events, we welcomed a record number of members. During our popular Japanese Festival, a whopping 1,474 members renewed or joined, and 1,627 renewed or joined at the newly expanded Best of Missouri Market & More. Thank you for your support! It is because of you that the Garden continues to be a world-renowned botanical institution and a must-see attraction in St. Louis.

How To: Gift Plants and Seeds

By Sharon Lloyd, Garden Instructor





Giving a gift from your garden is a creative way to share your love for plants and create a lasting memory. Learn how to use your existing plants as gifts below. Get the illustrated tutorial and a fun seed gift idea at **www.mobot.org/plantingthefuture**, or sign up for "Seeds and Plants as Gifts" at **www.mobot.org/classes**. (photos by Nathan Wagner)

Plant Cuttings as Gifts

Materials:

Favorite plant

Pruners or scissors

Rooting hormone

Container

Potting mix

Water

Ribbon or fabric

Directions:

Pull a stem from your plant. Cuttings should be between 4" and 6" or they won't root well.

Cut just below where the leaf attaches to the stem (node).

Remove any flowers and lower leaves from the stem, leaving two or three leaves at the top.

Apply the rooting hormone to the tip of the stem. Avoid contaminating the entire hormone mix by pouring some on the cap.

Fill the container with potting mix and moisten it with water.

Make a hole in the mix wide enough to fit the stem.

Stick the cutting in the hole being careful not to rub off the rooting hormone.

Firm the soil around the cutting.

Once the cutting are rooted, decorate container with ribbon or fabric.

PLANTING the future

Gardening Q&A



How do I protect trees and shrubs over winter?

To prevent drying, water trees and shrubs well in the fall and mulch the soil around the plants to help conserve moisture. Mulch will moderate soil temperatures, allow roots more time to grow, and prolong dormancy in the spring, reducing the chance of late spring frost injury.

Because evergreen plants hold their needles year round, water loss from their foliage in winter can cause the plants to dry out. To prevent this, water evergreen plants thoroughly before the ground freezes, then mulch around the plant. You may need to water some newly planted evergreens during the winter if the soil thaws and becomes dry.

Trees and shrubs should also be protected from rodents. Clean up any fruit on the ground to remove their food source, place hardware cloth around the trunks of small trees to keep rodents from gnawing on the bark, and make sure the mulch is not touching the trunks. If you need to add winter mulch, wait until several cold days have passed and rodents have made nests elsewhere.

Learn more about winter plant care with our gardening advice, tips, and resources available at **www.mobot.org/gardeninghelp**.

Healing the Planet

Why Plant Conservation Matters



Dr. Matthew Albrecht collects seeds of the federally threatened *Geocarpon minimum* from a remnant prairie in southwestern Missouri. (photo by Dr. Quinn Long)

While exact estimates are hard to determine, studies show that about one third of the world's known plant species are in danger of becoming extinct. Whether it's because of habitat loss, climate change, or human development, our natural world is under unprecedented stress. In fact, most scientific experts agree that about 50,000 plant and animal species are being lost every year. Preventing the decline or extinction of plant diversity—both rare and common species alike—is at the core of the Missouri Botanical Garden's mission.

"to discover and share knowledge about plants and their environment in order to preserve and enrich life."

“to discover and share knowledge…”

Expertise in the field discovering and documenting an area’s flora and applying that knowledge to prevent its decline or extinction is what makes the Garden a unique leader in conservation. “Very few institutions have all the skills needed under one roof,” says Dr. James Miller, Senior Vice President of Science and Conservation. “We can’t save the world’s plants until we know what they are.”

With 6.5 million specimens in its Herbarium, the Garden has the capacity to understand individual species and their conservation status. While an estimated 300,000 plant species have been discovered and approximately 2,000 are discovered every year, the urgency to document the remaining species—approximately 100,000—is clear. “There’s anonymous extinction going on, and we don’t know what we’re losing,” Dr. Miller says. “By definition all new species are of conservation concern.”



World Flora Online

(above) The Garden’s Herbarium is one of the world’s top research resources for specimens and information on bryophytes and vascular plants.

(left) As part of the United Nations’ Global Strategy for Plant Conservation, the Garden is collaborating with several botanical institutions to develop a World Flora Online, a key resource for future worldwide conservation efforts.



The decurrent false aster (*Boltonia decurrens*) is a rare plant known only from about 30 sites along the Illinois and Missouri rivers. For 25 years, CCSD researchers have been seedbanking this threatened species.

Go behind the scenes! Tour the Garden’s research center, library, and herbarium on Dec. 13 and 14. See page 18 for more details.

“…about plants and their environment…”

Plants are the basis of life; they provide the framework for all other forms of life to flourish. So when plants are threatened with extinction, entire ecosystems suffer. Restoring ecosystems to their original, sustainable state is therefore an important part of the Garden’s conservation work. With a variety of tools available—seed banking, eradicating invasive species, genetics conservation, species reintroduction—the Garden can take on this challenge. “Botanical gardens are uniquely positioned to do both high-quality academic research and applied projects that translate research findings into conservation practice,” says Dr. Quinn Long, researcher at the Garden’s Center for Conservation and Sustainable Development (CCSD).

As part of the Garden’s commitment to the Center for Plant Conservation’s National Collection of Endangered Plants, for more than 30 years CCSD scientists have been seed banking, studying, and reintroducing plants such as *Boltonia decurrens*. Endemic to Illinois and East Central Missouri, the decurrent false aster is one of the rarest native species in this region. In fact, until two Garden botanists rediscovered it north of St. Louis in 1986, it was thought to have been extinct.

At Shaw Nature Reserve, conservation is embedded in its mission to restore or create habitats for as many Missouri native species of flora and fauna as possible. The Reserve is home to the Garden's Seed Bank; more than 250 acres of restored tallgrass prairie; and a wetland mitigation bank that, under the guidance of the Army Corps of Engineers, is intended to alleviate lost functions that result from any construction project. The Reserve also has a strong partnership with the Missouri Department of Conservation, which has resulted in a variety of successful collaborative projects over more than a decade (see page 15).



Completed in 2013 under the direction of Garden Curator Dr. George Yatskievych, *Steyermark's Flora of Missouri* is a key resource used by conservation scientists in the state. (photo by Jill Setlich)

"…in order to preserve and enrich life."

Everything is connected. A healthy environment affects human health and overall well-being. It's not just about an area's fauna and flora; biodiversity loss and ecosystem degradation affect our daily lives. "Conservation efforts are concerned with people as much as with biology," says Dr. Miller. "They have to make people's lives better, not worse."

Community-based conservation means understanding the connection between plants and people and sharing plant knowledge so community members—from school children to government officials—care about and actively participate in conservation, benefiting both the environment and their livelihoods (see page 12).

But as CCSD scientist Dr. Matthew Albrecht says, conservation doesn't happen in isolation. "Everything we do, from our backyard to making our voices heard with policymakers, has an impact on biodiversity." Eradicating invasive species, choosing native plants, preventing storm runoff from contaminating our water, reducing our carbon footprint, and limiting habitat destruction can add up to great conservation results. "Living sustainably is vital to the success of conservation efforts here and around the world," says Vice President of Sustainability, Deborah Frank. "When people value and care for local nature, everyone benefits."

The Garden's conservation work around the world and locally is made possible by YOU. Your membership and donations make up 21% of our operating support. ***THANK YOU!***



Investing in Nature

While the Garden has been restoring ecosystems locally and globally for decades, in September it officially launched an ecological restoration program. It is the culmination of several steps taken in the past few years to increase the Garden's participation in this growing field.

In 2013, the Garden launched a genetics conservation program with a new lab and the addition of conservation geneticist Dr. Christine Edwards. In July 2014, the Garden hosted the Ecological Restoration Alliance of Botanic Gardens symposium, gathering some of the top ecologists from around the world, including keynote speaker James Aronson. Along with Dr. Leighton Reid, Dr. Aronson joined the Garden in the fall (see page 4). "There's a huge swelling of interest in funding ecological restoration," he says. "It's on the radar screen of policymakers, governments, banks, and big corporations."

Part of the increased interest in restoring ecosystems is the idea of natural capital, which is the economic metaphor representing the stock of natural resources, renewable and nonrenewable, upon which humans depend. "If we're going to save nature, we're going to have to invest in it," Dr. Aronson says. "Conservation and development experts used to say that it was too expensive, but it makes economic sense, and there are many scientists and horticulture experts here at the Garden that can help with these efforts locally and globally."

To learn more about ecological restoration, visit **www.mobot.org/conservation**.

by the people *for* the people

While plant conservation involves a significant amount of research, strong partnerships with policymakers, and collaboration among different conservation organizations, engaging the local community is just as crucial to successfully discovering, studying, and preserving plants for the future. The health of local ecosystems supports residents' well-being while their responsible use of natural resources maintains and enhances critical biodiversity. As direct beneficiaries of sustainable, biodiverse communities, local residents—from schoolchildren to government officials—have a role to play in conservation.

"A prerequisite for successful community-based conservation is a trusting relationship between the conservation organization and the local stakeholders."



Richard Reilly, Residential Energy Manager at the Garden's EarthWays Center, gives Camp EarthWays kids a tour of the Sunflower+ Project: StL in north St. Louis. The project, which Reilly helped develop, aims to revive vacant city lots with sunflowers and to determine their potential for extracting contaminants in the soil. (photo by Kat Golden)

As a local and regional environmental steward, the Garden strives to engage a community of home gardeners, schoolchildren and their teachers, graduate students, professional landscapers, business owners, scientists, and conservation advocates. The Garden also works with other local organizations to promote conservation. As a leader of the Deer Creek Watershed Alliance, the Garden shares plant-based solutions for improving water quality and managing storm water. The Garden's partnerships with the local and regional business community, including the St. Louis Regional Chamber of Commerce's Green Business Challenge and the St. Louis County Economic Council, cultivate sustainable thinking and action in the workplace. In 2013, the Garden launched the *BiodiverseCity St. Louis* initiative to bring community stakeholders together to promote and protect local biodiversity, highlighting existing, successful projects and efforts while also identifying critical gaps and needs.





(left) In Peru's Yanesha communities, as well as other rural communities in the region, Garden researchers train teachers and help to develop environmental education programs, including hands-on learning in organic gardens that students, teachers, and parents plant and care for together. (photo by Rodolfo Vásquez)
(right) Dr. Armand Randrianasolo (far right) of the Garden's William L. Brown Center works closely with local people in Madagascar, such as this nurseryman and his family, who help build trust between the community and the Garden and increase acceptance for conservation goals.

On a global scale, rather than studying plants and their relationship to people from a distance, Garden researchers live and work closely with local communities. By raising awareness about environmental issues and building capacity, the Garden emphasizes the importance of protecting the community's biodiversity, highlights the impact of current unsustainable harvesting practices, and provides sustainable activities to improve livelihoods.

In Peru's Selva Central, the Garden's Center for Conservation and Sustainable Development (CCSD) has worked closely for more than 15 years with the Yanesha indigenous people, who for centuries have depended on the wild flora and fauna for food, medicine, and shelter. To address the recent overexploitation of their natural resources, the CCSD assists in the development of community initiatives, such as tree nurseries and school and home vegetable gardens. It also helps revitalize traditional medicinal plant knowledge and practices by partnering high-school students with older community members and creating medicinal plant gardens and interpretive ethnobotanical trails.

There is a balance, albeit one that is hard to strike, between the urgency to preserve biodiversity and the traditions and needs of those living in and around ecologically fragile areas. "Excluding locals from their natural heritage and creating reserves that serve only researchers, tourists, and other outsiders would be both unfair and ultimately unlikely to result in long-term biodiversity conservation," says Chris Birkinshaw, Assistant Curator for the Garden's Madagascar program.

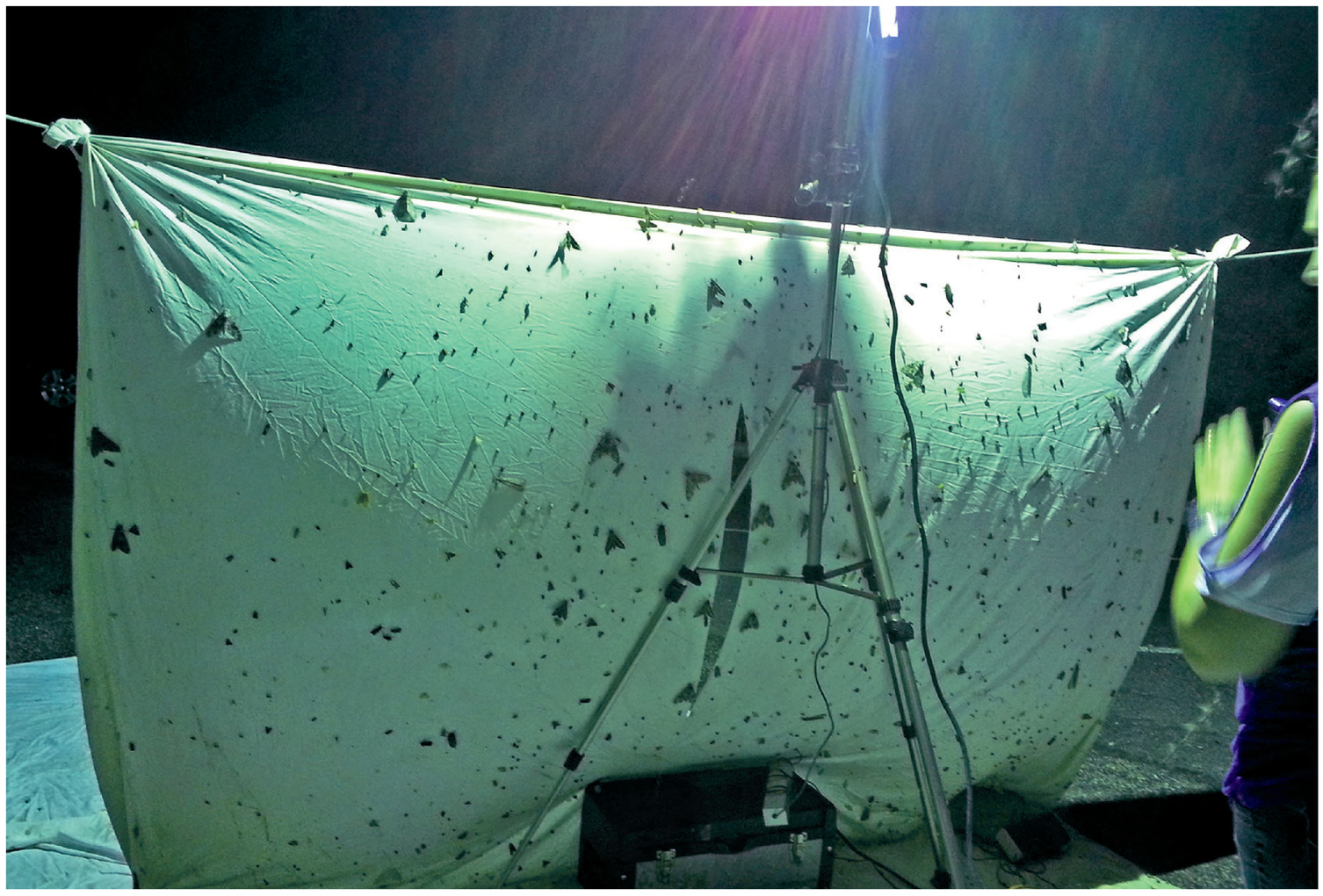
As part of its ongoing community-based conservation efforts in Madagascar, in 2013 the Garden launched a project working with local farmers in the Ankarabolava-Agnakatrika Forest. The forest, a Priority Area for Plant Conservation, is host to a wide variety of plant and animal species, several of which are new to science and endemic to this 5,930-acre area in southeastern Madagascar. However, farmers who lived within the forest before it was designated as a protected site were caught in the middle, not able to expand their fields to support their families. With the support of the IUCN National Committee of the Netherlands, SavingSpecies, and the Helmsley Conservation Trust, the project offers the farmers an alternative plot of land outside the protected forest while recruiting them to earn money to work on the abandoned fields and allow them to regenerate.

Understanding the important relationship between plants and people is a top priority for the Garden's local and global conservation efforts. "A prerequisite for successful community-based conservation is a trusting relationship between the conservation organization and the local stakeholders," Birkinshaw says.

By supporting the Garden, you are contributing to our region's ecological, economic, and public health, and supporting global conservation initiatives that can help create a better world.

Butterfly House





Using black lights, Tad Yankoski (left) and Laura Chisholm identify and collect a variety of invertebrates (right) at night to add to the living collections. (photos by Laura Chisholm)

On the Road Collecting Bugs

This is not your usual business trip. It's 10 p.m. and Laura Chisholm and Tad Yankoski are just getting started with a collecting ride that will last till 2 a.m. They'll drive on dirt roads in the middle of the night searching for and collecting invertebrates, using black lights to find them, and putting them in cooled containers to be shipped to St. Louis. They are all important additions to the living collections at the Sophia M. Sachs Butterfly House.

This is what most trips look like for Collections Manager Chisholm and Entomologist Yankoski, who take the opportunity to collect invertebrates while attending the annual Invertebrates in Education and Conservation Conference hosted by the Terrestrial Invertebrate Taxon Advisory Group (TITAG). During their July trip to Colorado and Arizona, where the conference was held, they collected over 200 specimens including cactus beetle, darkling beetles, centipedes, vinegaroons, tarantula hawks (*Pepsis* wasps), desert hairy scorpions, and Great Plains tiger beetles—the largest tiger beetle in the United States. "They're all big, flamboyant species that are very different from what we see in the Midwest," Chisholm says.

As part of its mission to understand plant and animal relationships in their environment, the Butterfly House has more than just butterflies in its living collections. It is an insectarium, so staff members collect and maintain a wide variety of invertebrates for both display and education purposes. "We want to show how even the smallest creature has an impact on the environment," Chisholm says. The cactus beetle, for example, spends its entire life cycle on a cactus. "These invertebrates help our visitors have a greater understanding of the direct relationship between plants and animals," she says.

Winter Jewels
A HOLIDAY CELEBRATION

November 28–January 4
9 a.m. to 3 p.m. Closed Mondays (except Dec. 21 and 29), Christmas Eve, and Christmas Day.

Go on a treasure hunt, discover fairy houses named after jewel-toned butterflies, and watch out for battling pirate cockroaches! Included with Butterfly House admission. Learn more at **www.butterflyhouse.org**.

ATTENTION

The Butterfly House will be closed January 5–30.

Shaw Nature Reserve



Increased interest in native plants, including the popular wildflower markets at the Reserve, is a result of the continued support of MDC. (photo by Kevin Kersting)

Conservation Collaboration

For more than 15 years, Shaw Nature Reserve and the Missouri Department of Conservation (MDC) have been partners in a variety of programs and initiatives that promote the conservation and enjoyment of Missouri's natural resources. The two organizations' complimentary missions make this a successful, comprehensive collaboration that benefits both the state's ecosystems and its residents.

The Reserve is a premier local example of how to protect and restore natural communities such as prairies, glades, wetlands, woodlands, and bottomland forests. Through a variety of ecological restoration practices like controlled burns and invasive species mitigation, the Reserve actively promotes the conservation of plants, animals, and their habitats. This wide variety of habitats makes the Reserve an excellent outdoor classroom for the general public, gardeners, professional landscapers, and other conservation groups. To expand their commitment to conservation through education and outreach opportunities, the Reserve and MDC have also partnered to offer events like the biennial Prairie Day and classes that foster public visitation of natural areas and quality outdoor experiences.

MDC has also worked closely with Reserve staff members like Whitmire Family Curator of Native Plant Horticulture Scott Woodbury to raise awareness about the power of native plants to promote biodiversity and wildlife conservation and to create more sustainable landscapes. Collaborative initiatives include the Native Plant School, the Shaw Professional Landscaping Series at Alberici, the Native Landscaping Manual, and the Rainscaping Guide and rebates program.

This collaboration has also allowed MDC to expand its Private Lands Management programs with the Reserve's "South 800." These 800 acres on the south side of the Meramec River offer many opportunities for active conservation management and for demonstrating a variety of practices related to wildlife conservation, including fishing and hunting. Together, the Reserve and MDC continue to protect the state's natural resources while connecting people with their natural heritage.

Learn more! Whether you'd like to take a class, join the Native Plant School, or plan your garden with the Native Landscaping Manual, you can find everything you need at **www.shawnature.org**.





While attending the World Orchid Conference in South Africa (left), Babs Wagner also observed orchids in the wild during a tour of the richly biodiverse Table Mountain (right).

Orchid Beauty and Diversity

When she traveled to the 21st World Orchid Conference in South Africa in the fall, Garden horticulturist and orchid collection specialist Babs Wagner gathered ideas to develop the conservation focus of the orchid collection, connected with other orchid growers to improve cultivation techniques, and of course saw orchids native to South Africa. Traditionally, the Garden's orchid collection has been used primarily for display purposes. "We are now enhancing its conservation value and are in the process of determining how best to do that," she says.

The Garden and St. Louis have a long, cherished history with orchids. In 1876, Garden founder Henry Shaw received the first specimens as a gift from Mrs. Henry T. Blow. With pollution in the city threatening its orchid collection in the 1920s, the Garden moved it to Shaw Nature Reserve, where the plants thrived until the conditions were suitable to move them back in the late 1950s. It was also around that time, in 1954, that St. Louis hosted the first World Orchid Conference. Over time, the collection grew, and today it is comprised of about 7,000 plants, including many hybridized and named at the Garden.

Wagner's trip was made possible by multiple generous donations, and it was an opportunity to benefit the collection by learning about conservation projects that could be applied here and seeing the plants in their natural habitat. This is important for orchid growers, Wagner says, because it's different from what they learn in a greenhouse or in books. "It's phenomenal when you're actually out seeing it versus seeing it in a collection cultivated," she says. "You can't really describe it; it's a whole different feel."

With what she learned at the conference from other orchid enthusiasts, Wagner hopes to diversify more the collection. "We can get different species from different countries than what we have and focus on displaying the more diverse species," she says. "I'd like to educate the public that there's more to orchids than *Cattleya*."

Don't miss it! See a rotating display of hundreds of orchids from the Garden's collection during the annual Orchid Show, going on Jan. 31–March 2. Learn more at **www.mobot.org/orchidshow**.



Whether it's baking a pot pie or crafting a succulent wreath, learning by "doing it yourself" sparks creativity and connects people and ideas. (photo by Flannery Allison)

Hands-On Learning

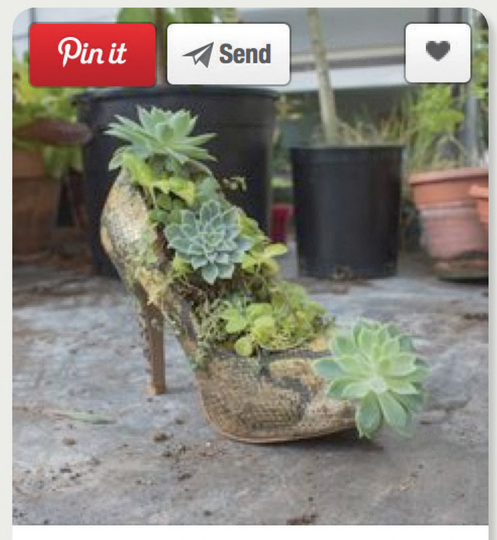
Making things creates connections to more than just the materials; it connects people and ideas. It encourages us to be active participants in the world around us. Most importantly, the skills learned by "doing it yourself" or DIY, such as critical thinking, creativity, and risk-taking, translate to success in other aspects of life.

It's never too late to start making and creating. While kids have a natural instinct to create, adults can also enjoy the wonderful feeling that comes from putting something together. There's no feeling like that of owning or gifting something you created, especially when you know that that item is truly one of a kind.

The maker movement, the DIY craze, the artisanal buzz—whatever you want to call it—has always been part of the Garden's educational offerings. Visitors have enjoyed cooking classes, botanical craft workshops, and green-living tutorials for years. As the temperatures drop and you start looking for activities to do indoors, check out the wide variety of DIY classes the Garden, Butterfly House, and Shaw Nature Reserve have to offer. You can learn how to make pastries, knit a scarf with scrap yarn, or use plants as unique gifts (see page 8).

Don't miss a chance to discover the wonder that comes with making something and to connect with nature and others who share your passion for learning.

Learn more! Visit **www.mobot.org/classes** for a full list of gardening, arts and crafts, cooking, and green living classes!



Connect with the Garden

In addition to taking a class, follow the Garden on Pinterest—the center of everything DIY—and get fun gardening ideas, expert tips, inspiration for your garden, and sustainable-living projects.

Check out all the ideas at **www.pinterest.com/mobotgarden.**

Member Events

Supper with Santa

December 6, 7, 13, 14, 20, and 21; 4:30–7 p.m.; Sophia M. Sachs Butterfly House

Spend a holiday evening with the butterflies and enjoy a pasta dinner, a holiday night tour of the Tropical Conservatory, crafts, photos, and a visit with Santa. $15 members; $20 nonmembers. Reservations required: **www.butterflyhouse.org/santa**.

Members Day: Winter Jewels

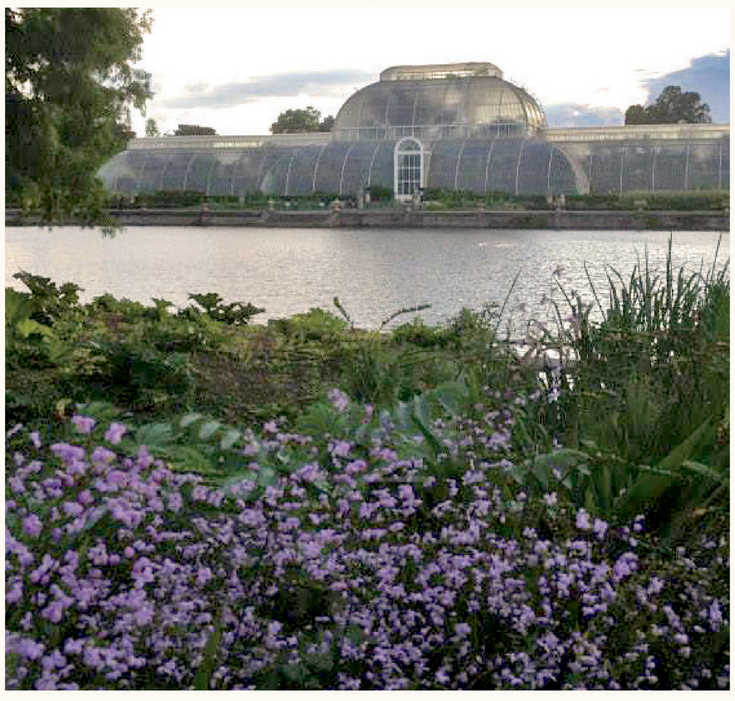
Tuesday, December 9; 11 a.m. and 1 p.m.; Sophia M. Sachs Butterfly House

Surround yourself with the magic of the season! Escape the cold and enjoy the warmth of the Tropical Conservatory and the beauty of jewel-toned butterflies. Chat with our entomologist and enjoy a guided tour of the intricate, butterfly-inspired fairy house display. Reservations required and space is limited: (636) 530-0076, ext. 10.

World Exploration: Behind the Science with Garden Botanists

Tour and Open House of the Monsanto Research Center; December 13–14; 1–4 p.m.

Enjoy a rare open house and tour the Garden's research center, library, and herbarium. Meet our botanists, see field equipment for plant collecting, and learn about plant conservation. Event is free and open to the public, but reservations are strongly recommended: **www.mobot.org/memberevents**.



Travel with the Garden to London

May 15–22, 2015

Enjoy a special trip to London and visits to the Chelsea Flower Show, Hampton Court Palace, Wisley, Saville Garden, and the Royal Botanic Garden—Kew. Travel reservations and tickets required: **www.mobot.org/travel**.



2014 Orchid Show Preview

Friday, January 30; 5:30–8:30 p.m.; Orthwein Floral Display Hall

Members see it first! Explore the unique relationship beween orchids and their pollinators. Sassafras open for dining; cash bar available. Enjoy a 20% discount at the shops and 20% off memberships.

Hot! Hot! Hot!

February 7 and 8; 10 a.m.–3:30 p.m.; Sophia M. Sachs Butterfly House

Escape the cold and join in tropical-themed, kid-friendly activities that will make you go buggy. Enjoy live steel drum music, a toddler sandbox, and more. For families with kids of all ages. Included with Butterfly House admission; free for members.

Members Day: A Dark Side to Your Garden

Saturday, February 28; 11 a.m.–noon; Shoenberg Theater

This special presentation by Master Gardener Betsy Alexander focuses on plants that prickle or poison. These plants have developed serious defenses! Learn about the plants in your garden that may need a danger symbol—some may surprise you. Reservations required: call (314) 577-5118 or visit **www.mobot.org/memberevents**.

Trivia Night—Garden Style

Saturday, March 7; 6–10 p.m.

Grab your team and join the Young Friends of the Garden for 10 rounds of trivia. Enjoy admission to the Orchid Show, a wine pull, silent auction, 50/50 raffle, and attendance prizes. Proceeds support the Children's Garden. $300 for a table of 10. Attendees must be at least 21. Tickets required: call (314) 577-5118 or visit **www.mobot.org/trivia**.

photos by Kyle Spradley and Kerri Carter

Shop & Dine

Vintage Sale for Members

December 2–23; closed Sundays and Mondays; 10 a.m.–4 p.m.; Little Shop Around the Corner

Shop vintage; shop green! Members enjoy an extra 10% off when they shop at the Garden's antique and collectible shop. See shop for sale details.

Holiday Décor Sale

December 29–January 4; 9 a.m.–4 p.m.; Butterfly House Gift Shop

Get 50–75% off holiday and everyday décor items and enjoy at least 25% off summer, fall, and everyday items. We are open on New Year's Day.

Hot! Hot! Hot! Sale

February 7–8; 9 a.m.–4 p.m.; Butterfly House Gift Shop

Escape the cold and join us for our Hot! Hot! Hot! celebration and sale. All visitors receive a 20% discount and members receive and additional 10% off.

Valentine's Day Sale

February 12–14; 9 a.m.–5:30 p.m.; Garden Gate Shop

Roses are red, violets are blue, find the perfect gift for that special someone–or maybe for you! Just in time for Valentine's Day, save 10% on scarves and candy.

Presidents' Day Sale

February 16; 9 a.m.–4 p.m.; Butterfly House Gift Shop

The kids have the day off, so this is the perfect time to visit the Butterfly House while also doing some shopping to prepare for spring. All visitors receive a 20% discount and members receive and additional 10% off at the shop.

Don't forget! The Butterfly House Gift Shop is closed January 5–30. The Little Shop Around the Corner is closed January 1–February 2.

20% OFF MEMBERSHIPS

December 3–7

Enjoy 20% off new, renewing, or gift memberships, and a 20% discount at the shops. Visit the Membership Services Desk at the Garden or the Butterfly House, purchase at **www.mobot.org/membership**, or call (314) 577-5118.



We're clearing the floor to make room for new inventory in 2015. Browse our vintage merchandise including home décor, antiques, furniture, and more!

CLEARANCE SALE
40–70% OFF

(no additional discounts)

December 26–31

10 a.m.–4 p.m.
Closed Sunday and Monday

LITTLE SHOP AROUND THE CORNER
ANTIQUES • HOME & GARDEN FURNISHINGS

Garden Gate Shop
4344 Shaw Blvd.
St. Louis, MO 63110
Monday–Sunday
9 a.m. to 5:30 p.m.
(314) 577-5137

Butterfly House Gift Shop
15193 Olive Blvd.
Chesterfield, MO 63017
Tuesday–Sunday
9 a.m. to 4 p.m.
(636) 530-0076 ext. 15

Little Shop Around the Corner
4474 Castleman Ave.
St. Louis, MO 63110
Tuesday–Saturday
10 a.m. to 4 p.m.
(314) 577-0891

The Story of Victorian Christmas at

Tower Grove House



Volunteers and staff carefully research and select colors and items to create an authentic Victorian holiday spirit in Tower Grove House. (photo by Kimberly Bretz)

If this time of year brings to mind traditions such as a Christmas tree, decorations around the house, and Charles Dickens's *A Christmas Carol*, then the Garden invites you to step into Henry Shaw's Tower Grove House for a Victorian Christmas. Many of the Christmas traditions celebrated today have their origins in Shaw's era, and every year his country home is decked for the holidays in traditional Victorian style.

A cherished tradition for more than 40 years, Victorian Christmas at Tower Grove House invites visitors to step back in time, connect with the Garden's rich history, and celebrate the festive spirit of the season. Each candle, ribbon, garland, and plate—all either from Shaw's collection or from that period—has been carefully selected and placed by the staff and volunteers who decorate the house every year.

Five local garden clubs and several volunteers join the Garden's team to decorate the hallways, dining rooms, parlor, and bedrooms. The Southwoods at Kenrick Garden Club has been decorating the formal dining room since 1993. "It's our most important contribution to the community as a club," says club president Nita Steck. "We love it and treasure our involvement with Tower Grove House." Club members contribute their ideas and talents to the process, from the planning and research stages in July to the item selection and decorating process in late November.

Every room offers a glimpse into the beauty of the era during the holidays. For many who hadn't visited the house before, the 2013 Garden Glow introduced them to a side of the Garden they hadn't explored. "Thousands of people stood in line in the cold to see it," says Tyler Nowell, Historical Interpretation Specialist at the Garden. "It was the highlight of the exhibit for many who didn't know about it."

Don't miss the chance to experience a Victorian Christmas at Tower Grove House! Open Wednesday through Sunday from 10 a.m. to 4 p.m. and at night during Garden Glow. Visit **www.mobot.org/holidays** for more information.

Go behind the scenes! Visit **www.mobot.org/holidays** to see Tower Grove House transform for the holiday season.

Tributes

July–September 2014.
A tribute gift is a wonderful way to honor family and friends. As of January 1, 2014, tributes of $50 or more are listed in the *Bulletin*. For more information about giving opportunities at the Garden, please call (314) 577-5118 or make a tribute gift online at **www.mobot.org/tributes**.

In Honor of

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Ms. Susie Goldberg

Mrs. Margaret Collins
Mrs. Bettie S. Johnson

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Mr. and Mrs. John Henshall

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Marsha and Bill Rusnack

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Dr. Tony Longrais
Mr. and Mrs. Jules Pass

Bob and Kara Newmark
Mr. and Mrs. Matthew Coen
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Mr. Marc Hirshman and Ms. Karen Handelman
Mr. Joseph Miller and Ms. Rashda Buttar
Drs. Kirsten and Jonathan Myers
Mr. and Mrs. Paul Tice

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July–September 2014.
For more information, call (314) 577-5118 or visit **www.mobot.org/donate**.

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July–September 2014. Call (314) 577-5118 or visit **www.butterflyhouse.org/donate** to learn more.

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Doris J. Sudhoff: A Lifelong Love for the Garden



Doris at Rocky Mountain National Park (photo courtesy of Jeanne Neuner)

When you visit Gardenland Express this year and spot the Burlington Northern, think of Doris J. Sudhoff. "Her father was an executive there, so it always tickled her to see the Burlington Northern train in the holiday show," says her cousin, Jeanne Neuner. "She also loved the year with the national parks theme; I believe she had visited all of the parks in the show."

Dozens of photo albums reflect her skill as an amateur photographer and her love of the Garden, particularly special events and exhibits, Jeanne says. As a lifelong St. Louisan and a Garden member for decades, Doris felt the Garden was one of the jewels of her community, so she chose to make a gift to it in her estate plans. The Garden is honored to recognize Doris's generosity in the Temperate House.

"The Garden was important to her, and it will be so nice to have a beautiful place to remember her and to share with family from out-of-town," says Jeanne, who is helping to fulfill her estate plans. "The Temperate House is ideal; it's beautiful and peaceful all year long, no matter the weather."

Heritage Society



Decades of Inspiration: Jacques and Nancy Baenziger Watch the Garden Grow

Jacques and Nancy Baenziger have enjoyed watching the Missouri Botanical Garden grow and change. New to St. Louis, they met at Washington University as graduate students in the early 1970s.

The couple visited the Garden and learned about the plans of the Garden's new president, Dr. Peter H. Raven. Jacques bought his first orchids at a Garden plant sale, beginning a passion for growing and photographing the plants. Together, the couple watched the Garden evolve.

After they completed their doctoral work and bought their current home, the Baenzigers would come to the Garden for ideas. The Garden's incremental change was inspiring, especially with the addition of the Japanese Garden and the William T. Kemper Center for Home Gardening.

"You realized you could just do a little bit at a time and achieve big results," Nancy says. "And it was gratifying to see even the Garden didn't get everything 100% right on the first try. If they had to move a plant to make it thrive, I didn't feel bad about having to do it at home."

As scientists, the Baenzigers were also interested in how the Garden's international plant science and conservation work related to the living collections here.

"It's so interesting to learn about mapping technologies and the databases for plant genetics and growth histories," Jacques says. "It feels good to support those endeavors."

After more than four decades since their introduction to the Garden, the Baenzigers still visit frequently. Jacques loves photographing the Garden. They've made donations—and purchases—of antiques at the Little Shop Around the Corner and appreciate how the Garden educates people about plants, both formally and informally.

"The Garden isn't just a beautiful place or a serene place," Jacques says. "It's a learning place."

Because the Baenzigers want the Garden to continue to evolve and engage visitors with science and education, they have joined the Heritage Society and named the Garden as a beneficiary of their estate.

"The Garden means a lot to us," Jacques says. "We understand that everything we see has been contributed by other people. This is our way of signing on to that idea and contributing to our community."

The Garden established the Heritage Society in 1986 to recognize those who plan to support the Garden beyond their lifetimes. To learn more about the joining the Heritage Society, please contact Joyce Pluhar at (314) 577-5199 or **joyce.pluhar@mobot.org** to discuss how your gift can help shape the Garden's future. You can also visit **www.mobot.org/plannedgiving**.

photo by Kristine Gruver



Create a Legacy with the Missouri Botanical Garden

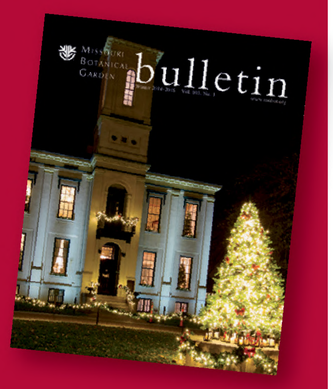
Did you know you can designate the Garden as a beneficiary in your IRA or pension plan? With this, you can:

- Avoid passing a costly asset to your loved ones.
- Bypass any income tax due.
- Be recognized as a member of our Heritage Society.
- Create a legacy with the Garden that lasts beyond your lifetime.

For more information or to inform us of your intent, please contact Joyce Pluhar at (314) 577-5199 or **joyce.pluhar@mobot.org**. Or visit **www.mobot.org/plannedgiving**.

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PERIODICALS
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Winter Jewels

Nov. 28–Jan. 4
at the Butterfly House

www.butterflyhouse.org



Valentine's Night Hike

February 12 & 14
at Shaw Nature Reserve

www.shawnature.org

MEMBERSHIP SALE

December 3–7

Enjoy 20% off new, renewed, or gift memberships. Plus, get a 20% discount at the shops. Visit the Membership Services Desk at the Garden or Butterfly House, call (314) 577-5118, or visit **www.mobot.org/membership**.



Kwanzaa: Festival of the First Fruits

December 29
Noon to 3 p.m.

This contemporary African-American holiday centers around the feast table of the harvest. Included with Garden admission.

bulletin calendar

December | January | February



www.mobot.org/events

UNIQUE GIFT IDEAS

FOR EVERYONE ON YOUR LIST



- 2015 Calendar
- Gift certificate for a class at the Garden, Butterfly House, or Shaw Nature Reserve
- Gift membership—20% off during our Membership Sale December 3–7
- Tickets to Garden Glow
- Tickets to the all new Lantern Festival in 2015

Find everything you need at www.mobot.org

GARDEN GLOW

NOVEMBER 22–JANUARY 3

Presented by
WELLS FARGO ADVISORS

The Garden will be ablaze with more than 600,000 stunning lights in our new and expanded displays! Explore pathways transformed into sensory light tunnels providing an explosion of visual magic. Our traditional candlelight village—bigger and better than before—will delight crowds of all ages.

www.mobot.org/glow

Signature Location sponsorship by The Boeing Company, Lelia and David Farr, and Monsanto. Special Venue sponsorship by Ameren, BSI Constructors, Bunge North America, Laclede Gas Company, Maritz Holdings, Moneta Group–Dan and Peggy West, PNC Bank, Sigma-Aldrich, and UMB Bank.

GARDENLAND EXPRESS

Celebrate Our Passion for Plants

Presented by
WELLS FARGO ADVISORS

November 22–January 4

The annual flower and train show delights visitors of all ages with G-scale trains traveling through a miniature holiday landscape. Free for members.

www.mobot.org/gardenlandexpress

Additional sponsorship by CBIZ and Mayer Hoffman McCann P.C.

December 2014

average temperature: low 28°, high 43°
average precipitation: 3 in.

What's in bloom?


Tahitian orange


Poison bulb


Poinsettia

11/22–1/3	Garden Glow, 5:30 to 9:30 p.m., *through January 3.* $ *Presented by Wells Fargo Advisors.*
11/22–1/4	Gardenland Express "Celebrate Our Passion for Plants," *through January 4.* Free for members. RVC *Presented by Wells Fargo Advisors.*
11/22–1/4	Holiday Wreath Auction, 9 a.m. to 4 p.m. MH
11/22–1/4	Victorian Christmas at Tower Grove House, 10 a.m. to 4 p.m. Wednesday–Sunday.
11/28–1/4	Winter Jewels, Tuesday–Sunday, 9 a.m. to 3 p.m. BH
12/3–12/7	Membership Sale RVC, BH
12/6–12/7	Supper with Santa, 4:30 to 7 p.m. $☎ BH *Sponsored by Noodles & Company.*
12/6–1/4	Holiday Trimmings at the William T. Kemper Center for Home Gardening, 9 a.m. to 4 p.m. KC
12/6	Member Event: Breakfast with Santa, 8 to 10:30 a.m. $☎ RVC *Presented by Macy's.*
12/9	Members Day: Winter Jewels, 11 a.m. and 1 p.m. ☎ BH
12/13	Saturday with Santa: Christmas Carols in the Garden, 1 to 4 p.m. RVC, SP
12/13–12/14	Supper with Santa, 4:30 to 7 p.m. $☎ BH *Sponsored by Noodles & Company.*
12/13–12/14	World Exploration: Behind the Science with Garden Botanists, 1 to 4 p.m. ☎ MC
12/14	Chanukah: Festival of Lights, noon to 4 p.m. RVC
12/14	Corporate Partners Day, 9 a.m. to 4 p.m.
12/20–12/21	Supper with Santa, 4:30 to 7 p.m. $☎ BH *Sponsored by Noodles & Company.*
12/29	Kwanzaa: Festival of the First Fruits, noon to 3 p.m. RVC



FREE CUP OF HOT CHOCOLATE

To Warm Up During Your Visit to Garden Glow!

For Garden members only. Limit one cup per group. Liquor shot available at additional cost. Not valid at Sassafras or Café Flora Wine Bar–only at snack and beverage tents outside. Valid 11/21/14–1/3/15. See tents for details.

January 2015

average temperature: low 24°, high 40°
average precipitation: 2.5 in.

What's in bloom?


Flowering-maple


Coral senecio


Cup kalanchoe

11/22–1/3	Garden Glow, 5:30 to 9:30 p.m., *through January 3.* $ *Presented by Wells Fargo Advisors.*
11/22–1/4	Gardenland Express "Celebrate Our Passion for Plants," *through January 4.* Free for members. RVC *Presented by Wells Fargo Advisors.*
11/22–1/4	Holiday Wreath Auction, 9 a.m. to 4 p.m. MH
11/22–1/4	Victorian Christmas at Tower Grove House, 10 a.m. to 4 p.m. Wednesday–Sunday.
11/28–1/4	Winter Jewels, Tuesday–Sunday, 9 a.m. to 3 p.m. BH
12/6–1/4	Holiday Trimmings at the William T. Kemper Center for Home Gardening, 9 a.m. to 4 p.m. KC
1/1–2/2	Little Shop Around the Corner is closed, *through February 2.* LSAC
1/5–1/30	The Butterfly House will be closed, *through January 30.*
1/30	Orchid Show Preview, 5:30 to 8:30 p.m. RVC
1/31–3/22	Orchid Show "Orchids and Their Pollinators" 9 a.m. to 5 p.m. *through March 22.* Free for members. RVC
1/31	The Butterfly House reopens, 10 a.m. to 4 p.m. BH



February 2015

average temperature: low 28°, high 45°
average precipitation: 2.5 in.

What's in bloom?


Winter aconite


Snowdrop


Witch hazel

1/1–2/2	Little Shop Around the Corner is closed, *through February 2.* LSAC
1/31–3/22	Orchid Show "Orchids and Their Pollinators" 9 a.m. to 5 p.m. *through March 22.* Free for members. RVC
2/7–2/8	Hot! Hot! Hot!, 10 a.m. to 3:30 p.m. BH
2/8	Celebrate the Gospel, 3 p.m. RVC
2/22	Corporate Partners Day, 9 a.m. to 5 p.m.
2/28	Member Day: A Dark Side to Your Garden, 11 a.m. to noon ☎ ST





Don't forget!



Holiday Wreath Display and Auction

November 22–January 4; Monsanto Hall

View unique wreath creations from florists across our community. Place a silent-auction bid on your favorites! All proceeds support the Missouri Botanical Garden.



Member Day: A Dark Side to Your Garden

February 28; 11 a.m.–noon; Shoenberg Theater

Master Gardener Betsy Alexander will talk about the plants in your garden that may need a danger symbol. Call (314) 577-5118 or visit **www.mobot.org/memberevents.**



Plant Societies Shows and Sales

Get the latest information about your favorite plant society's show and sale by visiting **www.mobot.org/plantsocieties.**

KEY (All events take place at the Garden unless otherwise noted.)

BH	Butterfly House	KC	Kemper Center for Home Gardening
BHGS	Butterfly House Gift Shop	LS	Little Shop Around The Corner
CA	Cohen Amphitheater	MC	Monsanto Center
CBEC	Commerce Bank Center for Science Education	MH	Monsanto Hall (in RVC)
CHD	Children's Garden	RVC	Ridgway Visitor Center
CL	Climatron lawn	SNR	Shaw Nature Reserve
GGS	Garden Gate Shop	SP	Spink Pavilion
JE	Jordan Education Wing (in RVC)	ST	Shoenberg Theater (in RVC)

Sassafras
Members-only event
20% Member discount at the shops
☎ Reservations required
$ Fee required

photos by (front) JJ Mueller, Kerri Carter, and Mary Lou Olson. (this page) Lisa Francis, JJ Mueller, Christine Siebert, David Merritt, Mary Lou Olson, Kevin Kersting, and Kerri Carter.

Missouri Botanical Garden

bulletin

Spring 2015 Vol. 103, No. 2 www.mobot.org



photo by Koraley Northen

President's Comment

Discovering and conserving the world's plants—many of which are the present and future resources and genes for our food crops, medicines, timbers, fibers, and other uses—has been the Missouri Botanical Garden's mission for over 150 years. As one of the world's top botanical institutions, we are proud to lead some of the most important projects on plant diversity locally and globally. However, these are no small needs, and they are not small goals. Well, at the Garden, we're not small thinkers either.

That's why the Garden has been raising funds to address these needs and invest in our role as one of the major cultural and environmental institutions in the region through our *Garden for the World* campaign (see page 8). I am thrilled to present to you some of our most exciting plans for the Garden—your Garden—including one that's close to my heart and that will allow us to engage with the Garden's rich history and invite our visitors to be a part of it: Henry Shaw's Museum (see page 11).

The campaign addresses the core of the Garden's work and mission, from being at the forefront of plant science and conservation with our fieldwork and our living collections (see page 16) to connecting people of all ages to the wonders of the natural world, including young children (see page 6) and teenagers (see page 17). I invite you to visit the Garden, the Butterfly House, and Shaw Nature Reserve and see for yourself how, as a member, you support our local and global efforts to protect plant diversity and habitats. You are a valued conservation partner. Thank you for your support!



Dr. Peter Wyse Jackson,
President

Did you know?

Your membership provides critical support for our international and local plant science and conservation work, and Garden memberships contribute 21% of our annual operating funds.

Plus, as a Garden member:

- You receive free admission for two adults and all children (12 and younger) at Shaw Nature Reserve and the Butterfly House.
- Special Member Days offer you exclusive activities, tram rides, and discounts in the shops and café.
- The Children's Garden is free to you all day Tuesday (April–October).
- The Garden is open for members only on Tuesday evenings in June and July.
- You are eligible for free or reduced-price admission to over 300 botanical gardens and arboreta across the U.S. and Canada.

Visit **www.mobot.org/membership**, email **membership@mobot.org**, or call (314) 577-5118 to learn more.

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Hours and Admission

For our current hours and admission prices at our three locations, visit **www.mobot.org**, **www.butterflyhouse.org**, and **www.shawnature.org**.

Contact

Missouri Botanical Garden
4344 Shaw Blvd., St. Louis, MO 63110
(314) 577-5100 • www.mobot.org

On the Cover

Once the Garden's scientific heart, Henry Shaw's Museum has been closed to the public since 1982. With your help, the Garden hopes to restore and reopen it . Photo by Tom Incrocci.

Credits

Editor/Designer: Andrea Androuais
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photo by Kerri Carter

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To discover and share knowledge about plants and their environment in order to preserve and enrich life.

– mission of the Missouri Botanical Garden

News

Garden's Executive Vice President Retires



Missouri Botanical Garden Executive Vice President Robert J. Herleth retired in January after 10 years supporting the Garden's mission and reputation as a world-class scientific institution and cultural destination. "Bob's dedication and commitment to the Garden have been exceptional," says Garden President Dr. Peter Wyse Jackson. "I greatly appreciate his support and efforts on behalf of the Garden and wish him the best of happiness and good health in his retirement."

In addition to overseeing the day-to-day operations, Herleth was involved in several new initiatives and special events, including Chihuly Glass in the Garden in 2006, Lantern Festival in 2012, and Garden Glow in 2013 and 2014. He also worked closely with government and community leaders on behalf of the Garden, including the redevelopment of the area now known as Botanical Heights. "I have seen a number of changes during the past 10 years, and it has been exciting to see the increased attendance at the Garden, especially among young families," he says. "More than anything else, I have greatly enjoyed working with the dedicated staff, Garden trustees, and the entire Garden community."

Herleth joined the Garden as Executive Vice President in early July 2004. A St. Louis native and St. Louis University graduate, Herleth has lived in the Shaw neighborhood since 1976 and served on the board of the Garden District Commission, an independent, nonprofit entity whose members reside in the Garden neighborhood or represent neighborhood business and institutions.

New Seed Bank Manager Joins Garden



The Garden welcomed Meg Engelhardt in November as the new Seed Bank Manager. Before joining the Garden, she monitored wetlands for the Illinois Natural History Survey and surveyed high-quality plant communities for the Illinois Natural Areas Inventory Update. She also worked in the Missouri Ozarks for the Missouri Department of Conservation.

She received her MS in Conservation Biology from Illinois State University. She grew up in St. Louis, visiting the Garden not only as a resident but also as a high school student attending the Ecological Restoration Corps summer program at the Garden's Litzsinger Road Ecology Center.

Her familiarity with Midwest ecosystems and experience searching for and studying plant populations in the region is what she hopes will help further the Seed Bank's mission to find and conserve species that are at risk of being lost to development, climate change, or other threats. She also looks forward to working with other organizations in the state and with land trusts and owners who share the same conservation goals. "It's exciting to have the Missouri Botanical Garden name with you when you're trying to do this kind of work," she says.

Garden Welcomes New Library Conservator



Susie Cobbledick joined the Garden in December as the Jeanette and William Ellerman Curator of Conservation in the Peter H. Raven Library. She will be working on a wide range of objects in the library collection, from rare, centuries-old books to late-nineteenth century journals. "These materials from the past help us to understand the scientific and technological developments that created the world we live in today," she says.

Her interest in book conservation evolved from her background in fine arts. After receiving her MFA in Crafts at the Tyler School of Art at Temple University, she earned her master of library and information science at Kent State University. After more than 10 years being a librarian, she learned book conservation from renowned book conservators in Ohio before coming to the Garden. "There's an intimate connection between plants and books beyond the botanical content printed on their pages," she says. "It's all about cellulose—plants have always been a part of bookmaking, from pigments to the paper itself."

Cobbledick is looking forward not only to preserving the Garden's collection but also sharing her love for books with others through internships, partnerships, and apprenticeships. "As a librarian, I want people to have access to books," she says. "While there's skepticism of the value of book conservation, there's still enthusiasm for this craft."

Garden Scientist Makes Local 40 under 40 List

Dr. Christine Edwards, Conservation Geneticist at the Garden, was one of the winners in this year's 40 Under 40 Awards by the *St. Louis Business Journal*. A panel of past winners selected Dr. Edwards out of more than 750 nominations received, honoring her in the publication and at an awards banquet in February.

Dr. Edwards leads the Garden's program studying plants' genetic composition to determine their conservation status and help develop an action plan to protect them. "I'm happy to see that our message about the importance of science-based information to make responsible conservation decisions is getting recognition in the local community."

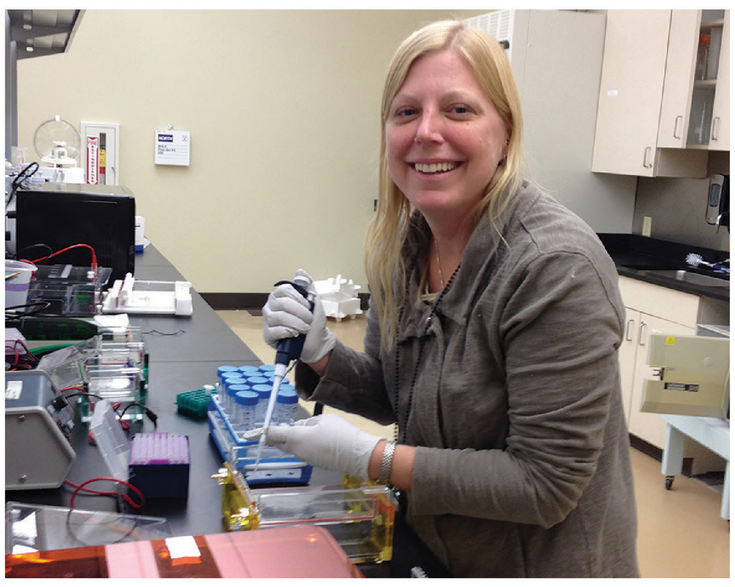


photo by Dr. Burgund Bassüner



photo by Mary Lou Olson

Garden Gives St. Louis the Gift of Trees

As the City of St. Louis celebrated its 250th anniversary in 2014, the Garden's "Planting the Future" theme aimed to inspire visitors to connect with nature, explore their own backyards and neighborhoods, and think about the next 250 years. To cap off the yearlong celebration, Garden staff, students and teachers from Saint Louis Public Schools (SLPS), and community members planted 250 native trees in city parks during two *Sprouting Science "Dig In!"* days in November. The tree-planting events were planned with the City of St. Louis and Forest ReLeaf of Missouri. *Sprouting Science in St. Louis* is a partnership between the Garden, SLPS, and The Boeing Company.

Outstanding Scientist Award for Garden Curator

Garden Curator Dr. Robert Magill received one of the two Trustees Awards of the 2015 Outstanding Scientist Awards from the Academy of Science–St. Louis.

The Academy's Board of Trustees announced the recipients in January and will present the awards on April 9 at a ceremony at the Chase Park Plaza Hotel. "The award is an appropriate acknowledgement of his outstanding work and contributions to botany and to the Missouri Botanical Garden," says Garden President Dr. Peter Wyse Jackson.

The Trustees Award recognizes outstanding contributions to the Academy in its mission of promoting the understanding and appreciation of science, engineering, and technology. In 2014, the Academy also awarded the Trustees Award to another Garden researcher, Dr. George Yatskievych.

News cont.

Garden Welcomes Early-Childhood Educators

More than 200 early-childhood educators from Saint Louis Public Schools (SLPS) visited the Garden on November 10 for a professional development event aimed at promoting outdoor exploration opportunities to students. The event was part of the *Sprouting Science in St. Louis* partnership between the Garden, SLPS, and The Boeing Company.

Teachers—some of whom had never visited the Garden—had a chance to explore the Doris I. Schnuck Children's Garden and experience early-childhood activities in some of the display gardens at the William T. Kemper Center for Home Gardening. They also participated in workshops that highlighted studies that suggest time spent outdoors benefits children academically, physically, and emotionally; and were introduced to various resources available to them throughout the community. "It was fantastic," says Jill Remington, a special education SLPS teacher. "It's the best professional development [event] I have ever attended!"

Garden Researchers Open Their Doors to the Public

On December 13 and 14, the Garden hosted an open house of its research facilities in the Monsanto Center for visitors to get a rare look behind the scenes of one of the most renowned plant research institutions in the world. Approximately 450 visitors got a chance to talk to some of the Garden's researchers and support staff about their work, see the equipment they use to collect and study plants in the field, and view rare and classical botanical texts. "We had a very enjoyable time talking to people and giving them an overview of what we do and how our work contributes to a better understanding of plant diversity," says Dr. Jim Solomon, Curator of the Herbarium and one of the event organizers.

This was also a rare opportunity for Garden members and the general public to tour one of the largest herbaria in the world. "I really liked seeing how the plant samples are pressed and attached to pages for the collection," says Emily O'Chiu, who attended the event. "Everyone I met was really nice and very passionate about their work. I learned quite a bit more than I thought I would."



Visitors got a rare opportunity to view some of the Garden's herbarium specimens during the *World Exploration: Behind the Science with Garden Botanists* event. (photo by Tom Incrocci)

Speaker Series Highlights Nature and Development

As part of its "Wild Ideas Worth Sharing" speaker series, in November the Garden-led *BiodiverseCity St. Louis* initiative featured three existing redevelopment projects that are infusing nature into urban design and functionality. "It was very exciting to hear about these development projects that have a strong presence of nature and raise the profile of biodiverse landscaping planning," says Jean Ponzi, Green Resources Manager at the Garden's EarthWays Center.

More than 80 people attended the event that highlighted the CORTEX District (Center of Research, Technology and Entrepreneurial Exchange), Chouteau Greenway's Midtown Loop project, and the Art Walk project at Grand Center.

A scale model of the latter, designed so that art surrounds visitors in both the natural and built environments, was on display at the Monsanto Center so attendees could appreciate the scope of the project. Together, these projects represent real-world ways people in St. Louis are connecting with nature and embracing green infrastructure solutions.

Visit **www.biodiversecitystl.org** to watch the presentations and learn more about *BiodiverseCity St. Louis*. There you can also sign up for the monthly e-newsletter featuring biodiversity-inspired articles and upcoming events.



photo by Nathan Wagner

Garden Will Host International Congress

The Garden will host more than 200 botanical garden professionals from more than 35 countries for the Botanic Gardens Conservation International (BGCI) 9th International Congress on Education in Botanic Gardens. The *Biodiversity for a Better World* congress will run from April 26 to May 1. Delegates will have the opportunity to connect with a global network of professionals and tour the Garden, Butterfly House, Shaw Nature Reserve, and other natural areas in the region, including Cahokia Mounds, Forest Park, and the Audubon Center at Riverlands.

During the event, Garden visitors are invited to learn more about plant biodiversity and botanical garden education projects at the Congress Poster Pavilion on display in the Ridgway Visitor Center. Garden members and the general public can also hear from a few of the congress keynote speakers during a free event on April 29, part of *BiodiverseCity St. Louis's* "Wild Ideas Worth Sharing" speaker series. To learn more, visit **www.biodiversecitystl.org**.

Strong 2014 for Garden and Family of Attractions

With more than 96,000 people enjoying Garden Glow, the Garden wrapped up a year of great success in both the total number of visitors and the number of members who joined or renewed. Over a million visitors enjoyed the Garden and its family of attractions in 2014—10% higher than 2013 for all three locations and an impressive 11% increase for Shaw Nature Reserve.

The Garden also saw a 6% increase in members who joined or renewed in 2014, making the 43,000 member households strong partners in the Garden's mission to discover and share the knowledge of plants and protect our environment. Thank you!

Gardening Q&A



How do I care for my spring-flowering bulbs?

First, recognize that what happens between now and when the foliage yellows in early to mid-summer determines the quality of next season's flower crop. This is the time when the buds are being set and new bulb offsets are growing. Now is a good time to add nutrients to support bulb growth.

Second, remove the seed pods after the flowers fade to help new bulb formation and bud set. Failure to do this will result in smaller bulbs because the seed pods will continue to develop and set seed, using energy reserves that would otherwise go into bulb growth.

Don't bunch the leaves or cut the foliage back to the ground because this will reduce bulb development and flower formation next season. Instead, the foliage should be allowed to sprawl out to collect as much sunlight as possible. Be patient to cut the foliage back until signs of leaf yellowing.

Most bulbs flower very well in the first year regardless of where they are planted. The second year will be a reflection of the new planting site conditions.

Learn more about spring bulb care with our gardening advice, tips, and resources available at **www.mobot.org/gardeninghelp**.



GARDEN *for the* WORLD

As a beloved cultural institution and a world-class botanical research center, the Missouri Botanical Garden has been a local and global leader in discovering and protecting plants and the environment for more than 150 years. With three unique locations in St. Louis, thousands of plant species on display, researchers in 35 countries, 6.5 million plant specimens in its Herbarium, one of the most comprehensive botanical libraries in the world, and just over one million visitors every year, it has truly become a garden for the world.

The world, however, cannot survive without plants. They are essential to a healthy, biodiverse environment where all other life forms, including humans, can thrive. With its mission to understand and protect plants as well as to reinforce the connections between people and the natural world, the Garden has been raising funds to address these needs and to invest in its future as a botanical and cultural leader. This effort is the *Garden for the World* campaign.

photo by Tom Herbig

The *Garden for the World* campaign focuses on specific areas of critical need that support the Garden's contributions to local and global plant science while investing in the Garden's role as one of the major cultural institutions in the region (see below). Whether you're a longtime member, a first-time visitor, or a researcher who uses the tools and knowledge available at the Garden, your support to the campaign can have an impact on the future of our planet.

MISSION DELIVERY

Ensuring the Garden continues to be a leader in local and global plant science and conservation.

– World Flora Online
– Seed Bank
– Hardy Plant Nursery
– William T. Kemper Center for Home Gardening (see page 20)
– Japanese Garden
– Brookings Interpretive Center

HISTORIC PRESERVATION

Preserving Henry Shaw's legacy and over 150 years of rich history.

– Linnean House
– Spink Pavilion
– President's Residence
– Historic Perimeter Wall
– Henry Shaw's Museum (see page 11)

MAJOR CULTURAL ATTRACTION

Supporting the Garden as a major cultural attraction.

– Ridgway Visitor Center and parking lots

ENDOWMENT

A strong endowment is critical to the Garden's ability to continue its mission to understand and protect plants.



Reflecting millions of years of genetic diversity, the Garden's historic corn collection is an example of the importance of wild relatives of crops that are being lost with changes in agriculture. Preserving plants with unique genetic attributes will be important in securing the world's food source. (photo by Dan Brown)

> "In an ever-changing world, it's important to preserve biodiversity"

David Orthwein / Supports the campaign through contributions to the Seed Bank at Shaw Nature Reserve and international restoration of critically endangered species on the island of Mauritius.



To date, the campaign has raised $81 million of the $100 million goal, including $43 million for endowment and $7.5 million to invest in science and research. Several historic buildings and gardens such as the Linnean House, Spink Pavilion, and the Japanese Garden have already gone through restoration projects that visitors can enjoy now.

Looking ahead, projects include groundbreaking of the Brookings Interpretive Center expansion in the fall of 2015 and groundbreakings of Henry Shaw's Museum and the Ridgway Visitor Center in 2016. We invite you to visit **www.mobot.org/fortheworld** to track our progress on these exciting projects.

GIFTS AT $500–$999

– Can be paid in 12 monthly contributions
– Receive two tickets to the July 21 donor recognition night

GIFTS AT $1,000–$2,400

– Can be paid in 24 monthly contributions
– Receive two tickets to the Lantern Festival Night of Magic gala (see page 14)

GIFTS AT $2,500 AND ABOVE

– Can be paid in 36 monthly contributions
– Receive two tickets to the Lantern Festival Night of Magic gala (see page 14)



(top) As part of the Japanese Garden's renovations funded by the *Garden for the World* campaign, all the bridges, including the Drum Bridge (*Taikobashi*), were rebuilt while keeping their original design. (photo by Josh Nezam)

(bottom) Since the Ridgway Visitor Center opened in 1982, the total number of people visiting each year has more than doubled to nearly one million guests, so the building will be updated to meet the needs of this growing and diverse visitor base. (photo by Flannery Allison)



The Museum will showcase artifacts and exhibits focused on ethnobotany, Garden history and scientific achievements, and more. (photo by Sonya Lalla)

Reopening Henry Shaw's Museum

When Garden founder Henry Shaw sought advice from Sir William Jackson Hooker, director of the Royal Botanic Gardens, Kew, to create a world-class botanical institution in St. Louis, Hooker advised him to create a library and museum to support an institution that featured both beautiful display gardens and a focus on botanical scientific research.

The Museum was the scientific heart of the Garden when it opened in 1859 and served many functions in the intervening years. It has been closed to the public since 1982, and the *Garden for the World* campaign aims to reopen this historic gem. The Garden will:

- Create an exhibit venue showcasing artifacts on ethnobotany, endangered plants, and Garden history.
- Create an addition on the building's east side with a fully accessible entrance, an elevator, and updated and expanded restrooms.
- Create accessible pathways and enhance gardens on the building's perimeter.
- Restore the lower level's historic architectural features and create exhibit space.
- Restore the stairwell, floors, and cabinets.
- Conserve the ceiling mural.
- Upgrade electrical, fire protection, and heating and cooling systems.
- Protect the building through tuck-pointing, drainage improvements, waterproofing, and window repairs.

> "The Garden is a world-class organization with an international reputation, and it's been important for our city."
>
> Marge Imo / Supports the Garden's rich heritage and role in the St. Louis cultural community through contributions to restoring Henry Shaw's Museum.

Get Involved! Support the *Garden for the World* campaign by using the envelope attached to this *Bulletin* or visiting **www.mobot.org/fortheworld** to donate, share your stories, track the progress, and more.

Botanical China

One Country's Flora and its Significance Around the Globe

Immense in size, richness, and diversity, China's flora represents approximately 10% of the world's plant diversity. The country alone is home to about 31,000 native plant species. In contrast, the floras of the United States and Canada combined have about 20,000 native plants. Common latitudes, biogeographic connections, and similar climates, however, mean strong similarities between North America and China. So, while thousands of miles separate the two regions, studying and conserving their ecological diversity is and always will be an interconnected endeavor.

China is the only country in the world with extensive, uninterrupted plant communities that span tropical, subtropical, temperate, and boreal forest regions. While the research and conservation value of China's vascular plants and bryophytes is important on a global scale, studying and preserving the country's plants is also essential to understanding the prehistoric and existing flora in the northern hemisphere, says Garden Curator Dr. Si He. "Several plants that were widespread in Europe and North America in prehistoric times now survive only in China," he says.

Once known only from fossil records, the critically endangered dawn redwood (*Metasequoia*) can now be found on Garden grounds. Botanical gardens play an important role in preserving some of China's most threatened plants. (photo by John Martin)

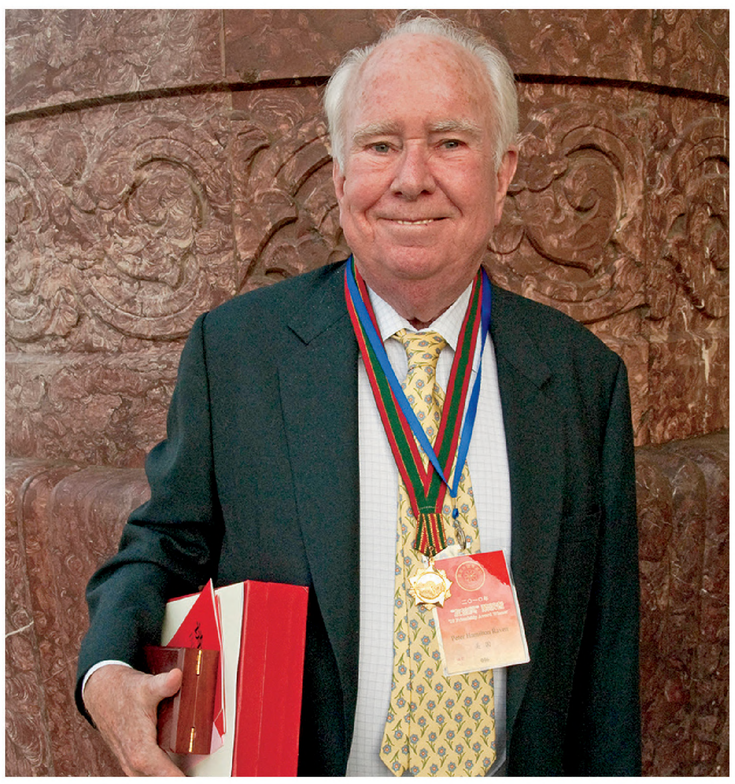


Fang Zhendong (left), Director of the Shangri-La Alpine Botanic Garden, and Garden ethnobotanist Robbie Hart (right) record vegetation patterns at a permanent plot in Yunnan, China. The plot is part of a project set up by Senior Curator Dr. Jan Salick to monitor alpine plants' response to climate change in the eastern Himalaya. (photo by Elsa Hart)

China's flora has been one of the Garden's top priorities since now-President Emeritus Dr. Peter H. Raven joined in 1971. Born in Shanghai, his connection to China has spanned decades of researching its flora and establishing collaborative relationships with scientific organizations and individual scientists in China and around the world. He initiated the *Flora of China* in 1988, and the project marked a groundbreaking exchange of scientific information between China and the U.S.

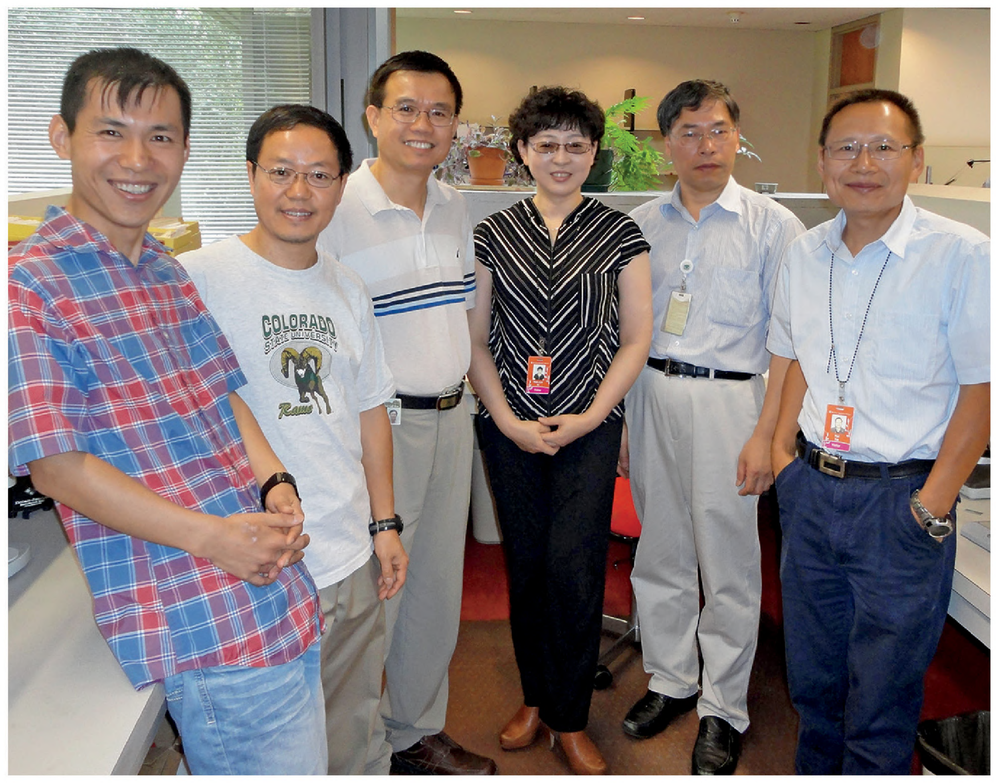
With the completion of this 25-year-long project, the Garden laid important groundwork for plant science and conservation in China. However, there's still work to be done. Providing support to other botanical gardens in China not only assists the ongoing study of the country's diverse plant life, but also raises awareness of the importance of protecting it. "The many new and fast-growing botanical gardens of China are in a crucial stage in their development and will benefit greatly from the support provided through strong international partnerships," says Garden President Dr. Peter Wyse Jackson. "The Garden, which works in nearly 40 countries around the globe, will be a crucial partner for them."

This collaboration means a growing exchange of people and ideas that further the mission to discover and conserve some of the world's most rare and endangered species. Every year the Garden welcomes Chinese students and botanists looking to learn more about taxonomy, systematics, and ethnobotany.



In 2010, Dr. Raven received the Chinese government's Friendship Award, given to foreign experts who have made an outstanding contribution to China's economic and social progress. He was the first to propose and establish a cooperative relationship between botanists from the Chinese Academy of Sciences and U.S. botanists. (photo courtesy of Pat Raven)

The wealth of resources and knowledge that the Garden shares is only matched by the opportunities for graduate students and researchers to study China's plants in the wild and learn about their traditional uses from the local communities. Dr. Jan Salick, Senior Curator at the Garden's William L. Brown Center, has studied traditional plant knowledge in the Himalayas and the impact of climate change in the region for more than 15 years. She has seen how Chinese botanical institutions, such as the Kunming Institute of Botany, have collaborated with the Garden in their display gardens and scientific research. "Both Kunming and the Garden have strong ethnobotanical programs with emphasis in studying how people interact with the environment," she says. This means the Garden will continue to be a strong ally in discovering and protecting the plants that will feed, cure, and shelter generations to come.



Garden curators Dr. Libing Zhang and Dr. Si He (second and third from the left) welcome Chinese botanists visiting in 2013. (photo courtesy of Si He)

LANTERN FESTIVAL

magic reimagined



All new sets!

MAY 23–AUGUST 23

Sponsorship by Crawford Taylor Foundation, Drury Hotels Company, Mr. and Mrs. Charles P. Gallagher United Fruit & Produce Company, Ms. Elizabeth L. Green, the Konzen Family, Judy and Gene Toombs, and UMB Bank.

Celebrating the Garden's ongoing work in China and the growing number of botanical gardens there, the Garden invites you to **Lantern Festival: Magic Reimagined** this summer. The exhibit features 22 all-new sets made of silk, wire, and porcelain. Every installation is closely tied to China's plants, legends, and popular sites.

BE A PART OF THE MAGIC!
Volunteers will be important to the success of Lantern Festival. If you'd like to participate, please visit **www.mobot.org/volunteer**.

NIGHT *of* MAGIC
Lantern Festival Premiere Gala
MAY 22 | 6:30 P.M.

Experience the opening-night gala of this stunning exhibition! Fabulous food, signature cocktails, a dragon parade, special entertainment, and more wonders await. Join us for an unforgettable night of music, magic, and light.

Tickets: $250; available at **www.mobot.org/memberevents**.

Member tickets are half price!
Purchase tickets online or at the ticket counter now. Tickets available by phone at (314) 678-7742 starting April 27.

Members-Only Night
MAY 26 | 6–10 P.M.

Enjoy food, entertainment, and shopping! Tickets: $11 member adults; $5 member children. Ticket purchase required: **www.mobot.org/memberevents**.

Tickets, info, and more at www.mobot.org/lanternfestival

Family of Attractions



Native plants such as rattlesnake master (*Eryngium yuccifolium*) provide aesthetic beauty to your garden and food and habitat for insects. (photo by Flannery Allison)

Native Plants With A Purpose

In addition to adapting to local conditions and requiring low maintenance, native plants are an excellent addition to any home garden because they provide habitat and food for hundreds of species of native insects, birds, and mammals. And in a world where climate change and human development are threatening some of the most precious plant and animal species, native plants prove that they can also make a difference.

For example, last year around this time, reports of the decline of the monarch butterfly were everywhere, following an all-time low reported in the winter of 2013. A variety of factors were believed to contribute to this decline, but among the most significant were the loss of habitat in the U.S. and Canada, specifically the loss of milkweed (*Asclepias* spp.), the food source of monarch caterpillars.

Organizations and individuals responded by planting butterfly gardens that included milkweed. In fact, last year alone, the **Sophia M. Sachs Butterfly House** gave out more than 300,000 milkweed seeds to visitors. By the fall of 2014, Monarch Watch reported that the numbers migrating were twice that of the previous year.

It's never too late to incorporate butterfly-friendly native plants into your existing garden. First, select a sunny site since plants that attract butterflies prefer full-sun and butterflies themselves need the sun to warm their bodies. Next, choose native plants with colorful—red, orange, yellow, and purple—nectar-rich flowers. Native plants such as purple coneflower (*Echinacea purpurea*) and Joe Pye weed (*Eutrochium purpureum*) are good choices. Don't forget to plant plenty of food for the caterpillars, such as milkweed, spice bush (*Lindera benzoin*), and Dutchman's pipe (*Aristolochia tomentosa*). Finally, avoid using pesticides and instead, encourage beneficial insects or use insecticidal soap for pest control.

You can always visit **Shaw Nature Reserve**, where the Whitmire Wildflower Garden offers more than 800 Missouri native plant species in a home garden setting and where the Native Plant School meets year-round to provide home landscaping tips, information, and more.

Don't miss it! Join the Butterfly House weekends in April for **Spring Fling** and celebrate the important insects that help to make our gardens grow. Visit **www.butterflyhouse.org** to learn more.

Horticulture



While the plants in the Swift Family Garden are visually captivating, they also support horticulture, education, research, and conservation projects. (photo by Flannery Allison)

Display Garden Meets Biodiversity

After extensive renovations in 2012 that enhanced its design and the visitor's experience, the Swift Family Garden has become a showcase of some of the Garden's most important plant specimens. Wild-sourced, herbaceous species from some of the world's most biodiverse hotspots line the long vista, highlighting both the architectural beauty of the Linnean House and the diversity of the Garden's living collections.

The plants represent the Garden's ongoing efforts to maintain living collections that reflect its research and conservation work. "Cultivating wild-collected plants is important in order to conserve them and their genetic diversity, which may be threatened in their native habitat," says Garden horticulturist Mariel Tribby. "Visitors can see the unique character and beauty of these plants in the display beds, and hopefully, the display will serve to raise awareness about the importance for plant conservation."

When Garden researchers collect rare or endangered plant seeds in the wild to protect them from extinction, they record data such as GPS coordinates, soil and environmental conditions, and other species growing around the plant. This valuable information can help them and Garden horticulturists grow and care for the plant, understand its taxonomy and life history, and design strategies for its conservation. Once they are brought to the Garden, some are added to the Garden's Seed Bank at Shaw Nature Reserve and others are propagated and placed on display.

Most of the species in the Swift Family Garden, such as German catchfly (*Lychnis viscaria*), water avens (*Geum rivale*), and wood avens (*Geum urbanum*), come from places with climates similar to St. Louis, including China, Romania, and countries within Central Asia and the Altai and Caucasus mountains. By maintaining a living collection of wild-sourced plants, Garden researchers and horticulturists can closely study them and devise better methods to protect them in their natural habitats.

Learn more! Read more about our research and collecting expeditions around the world and our efforts to protect plants and their environments at **www.mobot.org/conservation**.



As part of the Shaw Institute for Field Training at Shaw Nature Reserve, students learn about different ecosystems including wetlands. (photo by Kelsey Vollmer)

Science Outside the Classroom

As schools continue to look for innovative ways to engage students of all ages in science, technology, engineering, and math (STEM), the evidence supporting the importance of outdoor learning continues to mount. The challenge, however, is to bridge the gap between the two. It's what Adam Vorel, a senior at Eureka High School, calls "a disconnect" between how science is done in class and how it's done in the real world. "I've seen what happens in the field and in school," he says. "When you're in school, the only science you know is what you read in a textbook."

Vorel, like many of the teens who join one of the programs in the Garden's Teen Network, has taken his experience with the Shaw Institute for Field Training (SIFT) and the Tyson Environmental Research Fellowships (TERF) at Washington University in St. Louis and decided to pursue a career as a biology teacher. "I loved being submerged in nature all day and being part of something bigger," he says, "and it made me want to go back and teach it."

The Teen Network's programs—ECO-ACT, SAGE, TREES, and SIFT—are designed to provide students opportunities to learn about ecology while learning teamwork and critical-thinking skills. For many, it's their first hands-on introduction to the natural world and to the wide range of careers to consider in the future. In fact, the Garden's new Seed Bank Manager, Meg Engelhardt, credits her participation in one of the Garden's teen programs as a high school student with her decision to become a conservation biologist (see page 4). "The reason why I was interested in plant ecology and resource management was my experience at the Garden," she says. "I learned so much that I wouldn't have learned otherwise."

The Teen Network provides students an opportunity to be inspired to spend more time outdoors exploring and understanding the natural world. It also enables them to become successful, caring community members with the leadership and problem-solving skills they'll need as our future's stewards.

Get involved! Registration deadlines for the Teen Network programs are quickly approaching. Learn more about each program and how to apply by visiting **www.mobot.org/teenprograms**.

Member Events

Members Day: March Morpho Mania

Monday, March 2; 2–4 p.m.; Sophia M. Sachs Butterfly House

March Morpho Mania returns to the Butterfly House with thousands of dazzling Blue Morpho butterflies—always a visitors' favorite. Join us for members-only access, kid-friendly crafts, "ask the expert" stations, and other activities. Reservations required: (314) 577-5118 or **www.mobot.org/memberevents**.

Member Event: Eggstravaganza

Saturday, March 28; 10 a.m.–1 p.m.

Grab your basket for springtime egg hunts at the Garden! The hunt is on every 30 minutes from 10 a.m. to noon. Children can win prizes, enjoy snacks, pet live rabbits, and take photos with Hopsy, the Garden rabbit. Children grouped by age for each hunt. Free for adult members; $5 for member children ages 3–12. Tickets required: (314) 577-5118 or **www.mobot.org/memberevents**.

Members Day: Harvesting Herbs for Dinner

Thursday, April 23; 10–11 a.m.; Shoenberg Theater

Anne Cori, owner of Kitchen Conservatory and member of the St. Louis Herb Society, shares her herbal expertise during this presentation that coincides with the annual Herb Society Sale in Orthwein Floral Display Hall. Free for members. Reservations required: (314) 577-5118 or **www.mobot.org/memberevents**.

Tulip Trot

Sunday, April 26; 6:30–9 a.m.

Join the Young Friends of the Garden for the third annual Tulip Trot. Proceeds from this morning 5K fun run benefit the Doris I. Schnuck Children's Garden. Runners receive a commemorative race shirt. $30 members; $40 nonmembers. Tickets required: **www.mobot.org/tuliptrot**.

Member Preview: Spring Wildflower Market

Friday, May 8; 4–7:30 p.m.; Shaw Nature Reserve

Members enjoy a preview of largest selection of native wildflowers in the St. Louis area. Free for members and Reserve passholders; $5 nonmembers; $3 seniors and students; free for children 12 and under.

Be A Kid Again

Friday, May 15; 5:30–8 p.m.; Doris I. Schnuck Children's Garden

Enjoy spirits and special cocktails from local distilleries as you explore the Children's Garden. Guests must be 21 years old. Proceeds benefit the Children's Garden. $25 members; $35 nonmembers; $15 designated driver. Tickets required: **www.mobot.org/beakidagain**.

Corporate Partners Day

Sunday, May 17, 11 a.m. to 4 p.m.; Shaw Nature Reserve

Employees of the Missouri Botanical Garden's Corporate Partner companies receive free admission for two adults and all children ages 18 and younger to the Reserve with a valid corporate ID. Visit **www.mobot.org/corporate** for more information.



Members-Only Night

Tuesday, May 26; 6–10 p.m.

Enjoy a members-only night at the beginning of Lantern Festival. Authentic Chinese cuisine, entertainment, and shopping accompany 22 unique creations of silk, steel, porcelain, and light across Garden grounds. $11 member adults; $5 member children. Ticket purchase required: **www.mobot.org/memberevents**.

Shop & Dine

March Morpho Mania–Free Gift!

March 1–31; Tuesday–Sunday; 10 a.m. to 4 p.m.; Butterfly House Gift Shop

Pick up a Blue Morpho quiz when you visit the Butterfly House in March, fill it out, and bring it to the Butterfly House Gift Shop for a free gift! Limit one quiz and one gift per family. See gift shop for more details.

Summer Bulb Sale

March 27–30; 9 a.m. to 5:30 p.m.; Garden Gate Shop

Get ready for summer with a wide selection of bulbs for your garden.

Members 20% Sale at the Shops

March 27–30; Garden Gate Shop and Little Shop Around the Corner

All Garden members receive 20% off purchases at the Garden Gate Shop and Little Shop Around the Corner during this four-day special sale. Proceeds benefit the Missouri Botanical Garden.

Spring Fling Sale

Saturdays and Sundays in April; 10 a.m. to 4 p.m.; Butterfly House Gift Shop

Shop a wide selection of garden décor, including fairy garden items, just in time for spring. Members enjoy an additional 10% off on top of their existing discount and the general public gets 15% off at the shop. See gift shop for more details.

Easter Brunch

Sunday, April 5; 10:30 a.m., noon, and 1:30 p.m.; Sassafras

Celebrate Easter at the Garden! $29.95 adults, $14.95 children (ages 5–12). Includes same-day admission to the Garden. Reservations required (starting March 2): (314) 577-0200 or (314) 961-7588.

The Sustainable Rose Garden Book Signing

Sunday, April 19; 1–3 p.m.; Garden Gate Shop

Meet author Pat Shanley during this special book signing event.

Herb Sale

April 23–25; 9 a.m. to 5:30 p.m.; Garden Gate Shop

Shop your favorite herb varieties!

On April 22, members get a special preview of the 13th annual Herb Days plant sale in the Orthwein Floral Display Hall from 4 to 6 p.m. Visitors can shop from 4 to 8 p.m. in the Garden Gate Shop. See shop for details.

Mother's Day Brunch

Sunday, May 10; 10 a.m., 11:30 a.m., and 1 p.m.; Sassafras

Treat mom to brunch at the Garden! $29.95 adults, $14.95 children (ages 5–12). Includes same-day admission to the Garden. Reservations required (starting April 1): (314) 577-0200 or (314) 961-7588.



CAFÉ FLORA

Brunch at Spink Pavilion

Sunday mornings starting
March 29 through October

www.mobot.org

Mother's Day–Free Gift!

Sunday, May 10; 10 a.m. to 4 p.m.; Butterfly House Gift Shop

Visit the Butterfly House on Mother's Day, and mom will receive a free gift! From Tuesday, May 5 through Sunday, May 10, members enjoy an additional 10% off on top of their existing discount and the general public gets 15% off at the shop. See gift shop for details.

Children's Garden, Tower Grove House, tram tours, and Terrace Café will reopen March 28.

photo by Christopher Gibbons

Garden Gate Shop
4344 Shaw Blvd.
St. Louis, MO 63110
Monday–Sunday
9 a.m. to 5:30 p.m.
(314) 577-5137

Butterfly House Gift Shop
15193 Olive Blvd.
Chesterfield, MO 63017
Tuesday–Sunday
10 a.m. to 4 p.m.
(636) 530-0076 ext. 15

Little Shop Around the Corner
4474 Castleman Ave.
St. Louis, MO 63110
Tuesday–Saturday
10 a.m. to 4 p.m.
(314) 577-0891

The Story of the William T. Kemper

Center for Home Gardening



Reflecting current gardening trends, the gardens are ornamental, educational, and in line with existing conservation and maintenance needs. (photo by Flannery Allison)

As one of the most popular hobbies in the United States, gardening attracts people of all ages and backgrounds to the Missouri Botanical Garden. The beautiful landscapes inspire visitors to enhance their own home gardens, explore the joy that comes from growing their own food, or enjoy the local wildlife that depends on native plants. With a wide array of gardening classes and support services like the Horticulture Answer Service and the Plant Doctors, the Garden serves as both an inspiration and a resource for home gardeners.

In the 1980s, the Garden wanted to offer a dedicated space for its fellow green thumbs—experienced and aspiring alike. This resource center would serve Garden members, visitors, and the broader St. Louis community, and support the practical and aesthetic use of plants in and around the home through education programs, collected resources, and a variety of display gardens.

The William T. Kemper Center for Home Gardening opened with this vision in 1991, offering beautiful and educational display gardens, expert advice, and quality resources. It is the home for the St. Louis Master Gardener Program, a partnership with the University of Missouri Extension, and the more than 300 active Master Gardeners who every year give to the community over 30,000 service hours. It also includes 23 demonstration gardens and an 8,000-square-foot resource center with classroom space, a demonstration kitchen, Terrace Café, and horticulture displays. Over the years it has provided guidance to gardeners through the Answer Service, the Garden's website, emails, and hundreds of expert-led gardening classes.

These offerings make the Kemper Center the largest nonprofit gardening center of its kind in the U.S. "It is thrilling to see the impact the center is having for those who love plants and want to learn more about their selection, care, and culture," says Glenn Kopp, Master Gardener and Kemper Center Horticulture Information Manager. See page 8 to learn more about how you can be a part of this world-class resource's future.

Learn more! Visit **www.mobot.org/classes** for a list of craft, cooking, and gardening classes offered at the Kemper Center.

Commemorative Gifts

October–December 2014.
A commemorative gift is a wonderful way to honor family and friends. Gifts of $50 or more are listed in the *Bulletin*. For more information about giving opportunities at the Missouri Botanical Garden, please call (314) 577-5118 or make a commemorative gift at **www.mobot.org/tributes**.

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October–December 2014

For more information, call (314) 577-5118 or visit **www.mobot.org/donate**.

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October–December 2014

Call (314) 577-5118 or visit **www.butterflyhouse.org/donate** to learn more.

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Gardening is a Verb: Cultivating Spaces That Nourish Heart and Soul

As a tribute to longtime colleague and friend Cindy Gilberg, the Missouri Botanical Garden will publish in late February *Gardening is a Verb: Cultivating Spaces That Nourish Heart and Soul*, a collection of Cindy's essays on native landscaping. With full-color photographs and illustrations, the book not only shares Cindy's broad knowledge of ecologically based landscaping but also some personal reflections of one of the area's beloved horticulturists and native plant champion.

The book is available at the Garden Gate Shop, Butterfly House, Shaw Nature Reserve, and other partner organizations. Sale proceeds will benefit native plant research, conservation, and education efforts at the Reserve. For more information or to pre-order your copy, please contact the Development Office at (314) 577-9455.



Heritage Society



Joy and Rick Moll: Connecting the Garden's History to the Future

Joy and Rick Moll sometimes view the Missouri Botanical Garden from an unusual angle: the past. As a native St. Louisan, Rick remembers the creation of some of the Garden's iconic landmarks, including the Climatron®. From the early days of their marriage, he and Joy made extensive use of the Plant Finder database, the Gardening Help services, and the William T. Kemper Center for Home Gardening. The couple also enjoys taking a variety of classes and tours that allow them to learn more about the Garden and go behind the scenes, including tours of the Garden's library and archives. However, one aspect of the Garden seems to tie all the others together: "It's the history, really," says Rick. "It's fascinating to understand Henry Shaw's interests and how this all came to be."

Several years ago, Joy contracted to work with Garden archivist Andrew Colligan on a special project related to the work of longtime Garden friend and photographer Jack Jennings. Afterward, she and Rick both began volunteering in the archives, accessing a great deal of Garden history along the way. "You can read a lot of old *Bulletins* while photos are digitizing," Rick says. He became more and more interested in the early history of the Garden, particularly around Henry Shaw's Museum. Joy shared that enthusiasm for the building. "I'm quite interested in the Victorian curio cabinet," she says. "The museum is a grand version of that."

The couple was excited to connect with Garden President Dr. Peter Wyse Jackson and learn of his desire to reopen Shaw's museum as part of the *Garden for the World* campaign (see page 11). They made a gift to support that effort. "We really appreciated his perspective and his appreciation for the history," Rick says. "The space has so much potential; it'll be great to see it in use again."

Joy and Rick also took the opportunity to travel with Dr. Wyse Jackson to Ireland and France, learning more about his perspectives on history, architecture, and the international role of botanical gardens in plant science and conservation. They were delighted to find so many of their interests embodied in the work of the Garden, and with these deep and varied connections, they decided to make the Garden a beneficiary of their estate and join the Garden's Heritage Society. "We wanted to make one gift that supported education, local development, the environment, and the work in all the countries where the Garden has botanical projects," Joy says. "The Garden is a world-class institution and a collaborative one. It's an impressive legacy." It's a legacy that Shaw established more than 150 years ago and that will continue to inspire future generations.

photo courtesy of Rick and Joy Moll



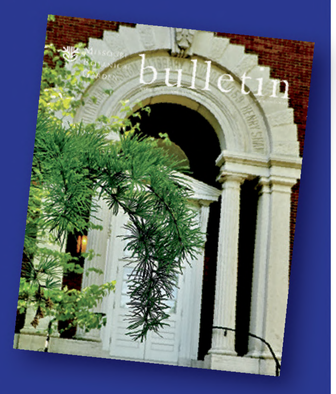
Making an Estate Gift to the Missouri Botanical Garden

Many of the Garden's closest friends join the Heritage Society by naming the Garden as a beneficiary of their estate in their wills. Naming a nonprofit as a beneficiary in a will is the most common form of estate gift.

To view sample bequest language for naming a nonprofit beneficiary in your will and to read about some of our Heritage Society members, please visit **www.mobot.org/plannedgiving**. For more information about making an estate gift or to inform us of your intent, please contact Joyce Pluhar by calling (314) 577-5199 or sending an email to **joyce.pluhar@mobot.org**.

green today
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Go Paperless, Go Green!



The Missouri Botanical Garden strives to make the most sustainable choices possible to benefit people, plants, and the planet. That's why we offer an interactive online version of the *Bulletin* as well as a downloadable PDF. Sign up for the new electronic versions by sending an email to **membership@mobot.org**. Let us know if you'd like to forego your paper subscription to save trees.

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LANTERN FESTIVAL

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May 23–August 23
www.mobot.org/lanternfestival

bulletin calendar

March | April | May



Perfect for Mother's Day

Mother's Day Brunch

Treat mom to brunch at the Garden and enjoy a special Mother's Day menu at Sassafras. Reservations required. Learn more at **www.mobot.org/events**.

Mother's Day at the Butterfly House

Visit the Butterfly House on Mother's Day, and mom will receive a free gift. For more information, visit **www.butterflyhouse.org**.

Give Mom the Gift of the Garden

Order your gift membership by April 20 to receive it by Mother's Day. Visit **www.mobot.org/membership**.



All new sets!

Celebrating the Garden's ongoing botanical research in China, 22 all-new sets crafted from silk and steel will once again connect visitors with the history, plants, and legends of China through breathtaking displays!

LANTERN FESTIVAL

magic reimagined

May 23–August 23

Sponsorship by Crawford Taylor Foundation, Drury Hotels Company, Mr. and Mrs. Charles P. Gallagher United Fruit & Produce Company, Ms. Elizabeth L. Green, the Konzen Family, Judy and Gene Toombs, and UMB Bank.

www.mobot.org/lanternfestival



www.mobot.org/events



2015 ORCHID SHOW

Orchids and Their Pollinators

Now–March 22

Come explore the special relationship between orchids and their pollinators. It's fascinating!

www.mobot.org/orchidshow



March Morpho Mania

March 1–31

at the Butterfly House

www.butterflyhouse.org



Daffodil Dash

Saturday, April 11

at Shaw Nature Reserve

www.shawnature.org

Grapes in the Garden

Friday, May 8

Presented by Schnuck Markets, Inc.



www.mobot.org/grapes

Tulip Trot

Sunday, April 26

All proceeds benefit the Doris I. Schnuck Children's Garden.

www.mobot.org/tuliptrot



March 2015

average temperature: low 36°, high 55°
average precipitation: 3.7 in.

What's in bloom?


Yellowtwig dogwood


Winter aconite


Witch hazel

1/31–3/22	Orchid Show "Orchids and Their Pollinators" 9 a.m. to 5 p.m. *through March 22.* Free for members. RVC
3/1–3/31	March Morpho Mania, *through March 31.* BH
3/2	Members Day: March Morpho Mania, 2 to 4 p.m. ☎ BH
3/7	Trivia Night—Garden Style, 6 p.m. ☎ $ RVC
3/14	See the Garden's float at the 46th Annual St. Patrick's Day Parade, starts at noon, Downtown St.Louis
3/27–3/30	Members 20% Sale at the shops. GGS and LSAC
3/27–3/30	Summer Bulb Sale, *through March 30.* GGS
3/28	Member Event: Eggstravaganza, 10 a.m. to 1 p.m. ☎ $
3/28	Tower Grove House, the Doris I. Schnuck Children's Garden, narrated tram tours and the Terrace Café reopen for the season.
3/28–3/29	Doris I. Schnuck Children's Garden Seasonal Reopening, 9 a.m. to 3 p.m. *Presented by Macy's Foundation.* $ CHD
3/28–10/25	Café Flora Sunday Brunch opens, *through October 25.* $ SP



$10 OFF

Your purchase of $150 or more at the Garden Gate Shop

For Garden members only. Not valid for purchase of a membership. One coupon per purchase. Expires 3/30/2015. See shop for details.

Garden Gate Shop

April 2015

average temperature: low 47°, high 66°
average precipitation: 3.8 in.

What's in bloom?


Cyclamineus daffodil


Pasque flower


Pansy

4/3	Arbor Day Tree Giveaway, 9 a.m. to 5 p.m., KC
4/4–4/5	Spring Fling, 10 a.m. to 3 p.m. BH
4/5	Easter Brunch, 10:30 a.m., noon, and 1:30 p.m. $ ☎
4/11	Daffodil Dash, 9 a.m. $ ☎ SNR
4/11–4/12	Spring Fling, 10 a.m. to 3 p.m. BH
4/13	*The Sustainable Rose Garden* book signing with author Pat Shanley, 1 to 3 p.m., GGS
4/18–4/19	Spring Fling, 10 a.m. to 3 p.m. BH
4/22–4/25	**Herb Days** *Presented by the Garden Gate Shop and the St. Louis Herb Society.* April 22: 4 to 8 p.m. GGS April 23: noon to 5 p.m. RVC April 24: 9 a.m. to 5 p.m. RVC April 25: 9 a.m. to 5 p.m. RVC
4/22	Member-Exclusive Shopping Hours: Herb Days, 4 to 6 p.m. RVC
4/23	Member-Exclusive Shopping Hours: Herb Days, 9 a.m. to noon. RVC
4/23	Members Day: Harvesting Herbs for Dinner, 10 to 11 a.m. ☎ ST
4/22–4/25	Herb Sale, GGS
4/25–4/26	Spring Fling, 10 a.m. to 3 p.m. BH
4/26	Tulip Trot, 6:30 to 9 a.m. $ ☎
4/1–10/31	Plastic Pot Recycling begins, *through October 31.* MC www.plasticpotrecycling.org



May 2015

average temperature: low 57°, high 77°
average precipitation: 3.9 in.

What's in bloom?


Columbine


Ornamental onion


Hosta

5/3	Fancy Tea with Mommy & Me, 10 to 11:30 a.m. and 2 to 3:30 p.m. ☎ $ BH
5/8	Grapes in the Garden, 5:30 to 8:30 p.m. *Presented by Schnuck Markets, Inc.* ☎ $
5/8	Members-Only Preview: Spring Wildflower Market, 4 to 7:30 p.m. SNR
5/9	Spring Wildflower Market, 9 a.m. to 4 p.m. $ SNR
5/10	Mother's Day Brunch, 10 a.m., 11:30 a.m., and 1 p.m. ☎ $
5/15	Be A Kid Again, 5:30 to 8 p.m. ☎ $ CHD
5/17	Corporate Partners Day, 10 a.m. to 4 p.m., SNR
5/22	Night of Magic: Lantern Festival Premiere Gala, 6:30 p.m. ☎ $
5/23–8/23	Lantern Festival: Magic Reimagined, *through August 23.* $ www.mobot.org/lanternfestival
5/26	Members-Only Night: Lantern Festival, 6 to 10 p.m. ☎ $
5/27	Whitaker Music Festival begins, *Wednesdays through July 29.* 7:30 p.m. CA

LANTERN FESTIVAL
magic reimagined

Members-Only Night

Tuesday, May 26; 6–10 p.m.

Enjoy a members-only night at the beginning of Lantern Festival with authentic Chinese cuisine, entertainment, and shopping. $11 member adults; $5 member children. Visit **www.mobot.org/memberevents** to purchase your tickets.

Don't forget!



Doris I. Schnuck Children's Garden Seasonal Reopening

March 28–29; 9 a.m.–3 p.m.
Join us for two fun-filled days of hands-on activities! Tower Grove House, narrated tram tours, and Terrace Café will also reopen this weekend.

Presetned by Macy's Foundation.



Member Event: Eggstravaganza

Saturday, March 28
Win prizes and meet Bunny while experiencing the beauty of spring at the Garden. Make your reservations today! Call (314) 577-5118 or visit **www.mobot.org/memberevents.**



Plant Societies Shows and Sales

Get the latest information about your favorite plant society's show and sale by visiting **www.mobot.org/plantsocieties.**

KEY (All events take place at the Garden unless otherwise noted.)

BH	Butterfly House	KC	Kemper Center for Home Gardening
BHGS	Butterfly House Gift Shop	LS	Little Shop Around The Corner
CA	Cohen Amphitheater	MC	Monsanto Center
CBEC	Commerce Bank Center for Science Education	MH	Monsanto Hall (in RVC)
CHD	Children's Garden	RVC	Ridgway Visitor Center
CL	Climatron lawn	SNR	Shaw Nature Reserve
GGS	Garden Gate Shop	SP	Spink Pavilion
JE	Jordan Education Wing (in RVC)	ST	Shoenberg Theater (in RVC)

Sassafras
Members-only event
20% Member discount at the shops
☎ Reservations required
$ Fee required

photos by (front) Dennis Green, Josh Nezam, Kerri Carter, Lydia Toth, Sonya Lalla, and Mary Lou Olson. (this page) Lisa Francis, Sonya Lalla, Heather Marie Osborn, Amanda Attarian, Dan Brown, and Cindy Lancaster.

Missouri Botanical Garden

bulletin

Summer 2015 Vol. 103, No. 3 www.mobot.org





photo by Koraley Northen

President's Comment

These are exciting times at the Missouri Botanical Garden. We are putting the final touches on the much-anticipated *Lantern Festival: Magic Reimagined*, which opens on May 23. We hope you join us this summer as we proudly showcase 22 all-new sets that highlight the importance of China's flora, the Garden's strong research and conservation connection with it (see page 12), and the pivotal role that botanical gardens have in conserving our environment.

As a leading botanical institution renowned the world over and a beloved visitor attraction, the Garden continues to fulfill its mission to discover, document, and share the knowledge of the world's flora, either through the World Flora Online (see page 5) or cataloging regional floras, such as our work on the *Flora of China*, the *Catalog of Plants of Bolivia*, or the *Flora of North America* (see page 7). It is the fundamental knowledge of the diversity of our plants that will provide us with the resources we need for the future, and it is both our privilege and our duty to share with you the marvelous work that the Garden—your Garden—is doing to preserve biodiversity locally, regionally, and globally.

We are also in the final stages of the *Garden for the World* capital campaign, which, thanks to your support, will take the Garden into the next chapter of growth and exploration. Exciting projects are on the horizon (see page 8), and we invite you to be a part of them by visiting **www.mobot.org/fortheworld** to donate, share your feedback, and stay in touch with the latest news. After all, it is thanks to you that Henry Shaw's vision, which started more than 150 years ago, will continue delighting millions of visitors for years to come.



Dr. Peter Wyse Jackson,
President

Did you know?

Your membership provides critical support for our international and local plant science and conservation work, and Garden memberships contribute 20% of our annual operating funds.

Plus, as a Garden member:

- You receive free admission for two adults and all children (12 and younger) at Shaw Nature Reserve and the Butterfly House.
- Special Member Days offer you exclusive activities, tram rides, and discounts in the shops and café.
- The Children's Garden is free to you all day Tuesday (April–October).
- The Garden is open for members only on Tuesday evenings in June and July.
- You are eligible for free or reduced-price admission to over 300 botanical gardens and arboreta across the U.S. and Canada.

Visit **www.mobot.org/membership**, email **membership@mobot.org**, or call (314) 577-5118 to learn more.

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*deceased

Hours and Admission

For our current hours and admission prices at our three locations, visit **www.mobot.org**, **www.butterflyhouse.org**, and **www.shawnature.org**.

Contact

Missouri Botanical Garden
4344 Shaw Blvd., St. Louis, MO 63110
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On the Cover

Shou, the God of Longevity, at the Double Ninth Festival installation in this year's *Lantern Festival: Magic Reimagined*. Photo by Heather Marie Osborn.

Credits

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Sustainability

The Missouri Botanical Garden *Bulletin* is printed on paper containing 100% post-consumer recycled content, that is, paper that you might have placed in the recycle bin in your home or office this year. It is manufactured using biogas, a renewable energy source. We print locally, so there is no long-haul transportation, and we're reinvesting in our community. We work hard to choose the most environmentally responsible paper around. So if you aren't quite ready to go completely electronic with our online version, you can still enjoy your paper *Bulletin* in good conscience. Once you've read it, please recycle.

photo by Flannery Allison

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To discover and share knowledge about plants and their environment in order to preserve and enrich life.

– mission of the Missouri Botanical Garden

News

Garden Welcomes New Chief Operating Officer



In February, the Missouri Botanical Garden welcomed Bob Woodruff as its new Chief Operating Officer. He most recently served as Director of Huron Consulting Group in St. Louis, where he provided business consulting to higher education clients. He served as Vice President and Chief Financial Officer at Saint Louis University (SLU) from 2003 to 2011. While there, he managed the school's $900 million endowment and led financing for the two largest capital projects in the university's history. Earlier in his career, he worked for Deutsche Financial Services in a variety of roles. He holds a master's degree in business administration from Washington University in St. Louis.

Overseeing the day-to-day operations at the Garden, Woodruff will lead the Finance, General Services, Information Technology, Communications, and Visitor Services divisions as well as the Sophia M. Sachs Butterfly House and Little Shop Around the Corner. "I'm excited about the opportunities I see at the Garden," he says. "We're very fortunate to have many loyal supporters and dedicated staff that are passionate about the mission of the Garden, and I look forward to working with the Garden community and Board of Trustees to advance our mission."

In other Garden staff news, Donna McGinnis was promoted from Vice President of Institutional Advancement to Senior Vice President of Community and Development. In this expanded role, she oversees the Garden's Education and Sustainability divisions and continues to lead the Institutional Advancement Division. With this promotion, she is now responsible for the many ways the Garden engages its communities through education, community outreach, membership, and philanthropy.



David Kemper (left) received the Greensfelder Medal from Dr. Peter Wyse Jackson at a private event in April. (photo by Kevin Kersting)

Garden Awards Greensfelder Medal

The Garden awarded the Greensfelder Medal to David Kemper on April 14 during a private dinner at the President's Residence.

The award recognizes an individual's contributions to garden, park, and landscape planning as well as urban improvement. Kemper has been deeply involved with the Garden for more than 30 years. He joined the Garden's Board of Trustees in 1987 and served as Chairman from 1998 to 2000. His support made possible the development of the William T. Kemper Center for Home Gardening.

In addition to serving on the Board of Trustees, Kemper is currently a member of the Finance, Executive, Investment, Capital Campaign, and Nominating committees. He has chaired the Garden's Horticulture Committee for many years and guided many of the recent developments in horticulture such as the expansion of the living collections, the implementation of the Living Collections Management System, and the establishment of a new plant nursery (see pages 8–11).

The Greensfelder Medal was named after Albert P. and Blanche Y. Greensfelder, whose leadership and commitment to green space preservation left a legacy that is best exemplified by the transformation of a mining and logging site into what is today Greensfelder Park in west St. Louis County. The medal, which was first presented in 1980, is not awarded annually but only when the Garden identifies a person who demonstrates the Greensfelders' love of parks and nature.

Corporate Partners Program Reaches 100

The Garden's Corporate Partners Program has reached a milestone 100 partner companies. Corporate Partners make an annual financial commitment to the Garden's mission and are essential to the Garden's ongoing operations. These 100 companies represent a diverse range of industries, interests, and sizes.

They choose to support the Garden for many reasons—plant science, arts and culture, sustainability, education, community enrichment, conservation—and some have been partners for decades.

Corporate Partners also appoint representatives to the Corporate Council, one of the Garden's four volunteer leadership boards, to further engage the corporate community with the Garden's global mission and local impact. These individuals bring a wealth of personal talent as well as the diverse perspectives of their organizations to Garden leaders, working together to connect and enrich our community.

The Garden is profoundly grateful for the continued and growing support it receives from our Corporate Partners.

Garden Introduces Military Appreciation Week

In recognition of our military service members, the Garden is proud to introduce a Military Appreciation Week membership sale. From Sunday, June 28, to Sunday, July 5, visit the Membership Services Desk in the Ridgway Visitor Center, Sophia M Sachs Butterfly House, or Shaw Nature Reserve with a valid military ID and receive a 20% discount on a new, renewed, or gift membership. For more information, please contact the Membership Department at **membership@mobot.org** or (314) 577-5118.



The World Flora Online Council discussed in Geneva the project's next steps. (photo courtesy of Richelle Weihe)

World Flora Online Update

In late January, Garden President Dr. Peter Wyse Jackson and other staff members traveled to Geneva for the latest meeting on the World Flora Online (WFO), which, thanks to the support of the Monsanto Company, seeks to have an online flora of all known plants by 2020.

Several major goals were accomplished including adopting an operating system developed by the Royal Botanic Gardens, Kew, and adopting the Plant List, an existing joint project developed by Kew and the Garden, as the nomenclatural backbone. Google also committed to host WFO with $100,000 worth of cloud server credits, allowing the operating system and data to be fully functional by the next WFO meeting in Rio de Janeiro this fall.

Mullanphy Centennial

Mullanphy Investigative Learning Center, a magnet elementary school in the Saint Louis Public Schools (SLPS) district, is celebrating 100 years this year. To commemorate the occasion and its long history with the school, the Garden offered all Mullanphy staff members honorary Garden memberships—from administrative to cafeteria staff. "We wanted to celebrate this milestone by ensuring that all Mullanphy staff could enjoy the Garden at their leisure and with their families," says Membership Manager Andrea Nickrent.

Formerly called the Bryan Mullanphy School, the school and the Garden have a long history together. The St. Louis Board of Education purchased the land on which it stands in 1910 from the Garden's Board of Trustees, and in 1993, the school reopened as one of the two magnet schools developed by SLPS in collaboration with the Garden, the Saint Louis Zoo, the University of Missouri–St. Louis, and the St. Louis Science Center.

News cont.



Bob Newmark (right) of Bryan Cave LLP, the award sponsor, presented the award to Senior Vice President of Science and Conservation Dr. Jim Miller (left). (photo courtesy of the St. Louis Regional Chamber)

Garden Wins Arcus Award

The St. Louis Regional Chamber celebrated its second annual Arcus Awards in February and presented the Arcus Award for Achievement in Biosciences to the Garden. The awards celebrate businesses and organizations that made significant contributions to St. Louis, and the Garden was recognized for advancing St. Louis's reputation as a global hub for bioscience and worldwide leadership in plant research and conservation.

Civic Stewardship Award for Reserve's Woodbury

The St. Louis Chapter of the American Society of Landscape Architects (ASLA) awarded Scott Woodbury, Whitmire Family Curator of Native Plant Horticulture at Shaw Nature Reserve, its 2014 Civic Stewardship Award. St. Louis ASLA President Scott Emmelkamp and past president Tim Slazinik presented the award at the annual ceremony in February. The Civic Stewardship Awards recognize individuals or organizations that raise awareness or show stewardship of the natural or built environment. With this accolade, ASLA recognizes Woodbury's efforts over many years to develop programs to connect the general public, design professionals, developers, and public agencies with native plants and the benefits they provide for public and environmental health.

Enhancing Greenspace in in City Neighborhood

This summer, the Garden's education and community outreach team will work with residents, students, and community leaders in the historic Baden neighborhood in north St. Louis city to explore how nature can have an impact on quality of life. The pilot project, which will run through 2016, is a collaboration between Baden, the City of St. Louis, BiodiverseCity St. Louis, the Garden, the Missouri Department of Conservation, STL Youth Jobs, the Metropolitan St. Louis Sewer District, and a host of other community organizations.

With the support from a private donor and a local community foundation, the Garden will work with STL Youth Jobs to employ and train area teens to install and care for a community garden on city-owned property, centrally located and accessible to a diversity of residents. In addition, local K–8 youth, families, and seniors will also be engaged via hands-on interactive programs and action projects, including community clean-ups, invasive plant removal, and native tree plantings.

The project is part of the City of St. Louis's Urban Vitality and Ecology initiative and will serve as a model from which to learn how best to engage, equip, support, and rally communities around the environmental, social, and economic benefits of urban green space and nearby nature.

Garden Welcomes BGCI Congress Delegates

From April 26 through May 1, the Garden hosted more than 300 delegates from 41 countries for the Botanic Gardens Conservation International's (BGCI) 9th Congress on Education in Botanic Gardens. The congress was made possible thanks to the support of Andrew Barnett and Louisa Hooper of the Calouste Gulbenkian Foundation, The Boeing Company, Kathy Mckinnon and the Sylvia Scholarship Fund, Sigma-Aldrich, Anheuser-Busch, Sharon and Dale Fiehler, Katy Land Trust, David and Cheryl Morley, Mr. David Orthwein, Mr. and Mrs. Raymond W. Peters II, Mr. and Mrs. Nicholas L. Reding, and The Saint Louis Brewery.

At the congress, Dr. Cary Fowler received the 7th William L. Brown Award for Excellence in Genetic Resource Conservation. Dr. Rainer Bussmann, Director of the Garden's William L. Brown Center, presented the award. "The William L. Brown Award recognizes the outstanding contributions of an individual in the field of genetic resource conservation and use, to which

Dr. Fowler has been committed throughout his career," he said.

Dr. Fowler's experience includes heading the International Conference Program on Plant Genetic Resources at the U.N. Food and Agricultural Organization (FAO) and producing the first global assessment of the state of the world's crop diversity. From 2005 to 2012, he lead the Global Crop Diversity Trust, which he helped found, to ensure the conservation of crop diversity for food security, including the creation of the Svalbard Seed Vault that houses more than 783,000 food crop varieties and their wild relatives.



(from left) Dr. Peter Wyse Jackson, Garden Curator and Editorial Director of Flora of North America Dr. James Zarucchi, and Dr. Mark Wrighton present a copy of volume 9 to Dr. Walter Lewis, which was dedicated to him.

Garden Publishes Volumes Documenting Floras

The Garden recently published the two-volume set of the *Catalog of the Plants of Bolivia*, documenting more than 15,000 species known from that country, Volume 8 of the *Flora of Costa Rica*, the second-to-last in the series, and Volume 9 of the *Flora of North America*. "We desperately need to have a comprehensive account and a proper baseline of the flora of every region in the world because this will drive our efforts to conserve biodiversity to ensure we live in a sustainable planet in the future," says Garden President Dr. Peter Wyse Jackson.

Volume 9 of the Flora of North America, which covers the rose family (Rosaceae), was dedicated to Dr. Walter Lewis, former Senior Botanist at the Garden and Professor Emeritus of Biology at Washington University in St. Louis, in recognition of his contributions to the knowledge of Rosaceae and his support of the Flora of North America project and the Garden.

During the February reception, Dr. Wyse Jackson and Washington University Chancellor Dr. Mark Wrighton praised both Dr. Lewis for his work and the partnership between the two institutions. "We're fortunate to be partners with the Garden," Dr. Wrighton said. "The Missouri Botanical Garden is an institution of great consequence not only for St. Louis but increasingly for the world."

Planning Your Visit: Roadwork By the Garden

As you plan your visit to the Garden this summer, please note that the City of St. Louis Street Department will be doing roadwork on Kingshighway at I-44 after Memorial Day.

For the most current information, visit **www.mobot.org/directions** or follow the Garden on Twitter and Facebook.

Gardening Q&A



When and how should I divide my perennials?

Late July through September is the preferred time to lift and divide many perennial flowers. This includes spring and early-summer blooming perennials such as iris, peonies, hostas, bleeding hearts, and coral bells. This will give them a chance to develop a good root system before cold weather sets in. Given proper care, they should also bloom the following spring, but some will take two years to bloom well.

To dig, use a sharp garden spade to lift your perennials. Dig several inches out from the outermost stems and lift the clump out of the ground. Using an old, large knife, cut the clumps into sections. Another method is to use two digging forks and pry the clump apart.

Peonies do not need dividing on a regular basis. If they are flowering well, leave them alone unless you want to increase your number of plants or relocate a plant. Bearded iris and perennial asters should be divided every three to four years. Divide the clumps and keep only the young, healthiest rhizomes. Discard the old rhizomes in the center of the clump.

Learn more about caring for your perennials with our gardening advice, tips, and resources available at **www.mobot.org/gardeninghelp**.



Fully OUT GROWN

Space. It may seem that, with 79 acres, the Missouri Botanical Garden has plenty of space to showcase its diverse plant collection. However, beyond the display gardens and buildings, there is much more than meets the eye. Behind the scenes, limited space is available to house and grow all the individual plants that make up the Garden's living collections. The greenhouses are the only place where the Garden can house its permanent collections, grow thousands of individual plants for floral display, and conduct research and propagation work to support its conservation programs. And they have been running out of space.

THE GREENHOUSES

The Garden currently has approximately 53,000 square feet—about one acre—of nursery space. A total of 18 greenhouses are connected to a large central hallway called the Head House (see table below). Their purposes range from housing some of the Garden's most precious plant collections to producing more than 200,000 individual plants for the Garden's annual displays, such as the front entrance, the Climatron® Central Axis, and the Doris Waters Harris Lichtenstein Victorian District.

The Garden is home to two of the world's largest and finest permanent collections: the orchid collection, which was started by Henry Shaw in 1876 and contains approximately 6,700 individual plants, and the aroid collection, which has about 4,000 individual plants. The greenhouses are also home to the desert collection, which was started by Dr. George Engelmann and is made up of approximately 1,000 individual plants, and the aquatic plant collection, which contains more than 200 water lily cultivars. Garden horticulturists also work closely with the Garden's researchers to care for plants they have collected around the world. The little space that remains is used for production.

THE LIVING COLLECTIONS

The pressure of housing permanent collections and producing thousands of individual plants for rotating displays on Garden grounds and for floral display shows leaves little space to grow plants to add to the permanent living collection. These include hardy plants, such as perennials and woody shrubs and trees, that can survive outside in the winter and therefore comprise most of the plants visitors see out on the grounds year-round.

The collections also include plants that support the Garden's conservation and research work, which have to be collected in the wild and grown in-house. "The fact is that we need to have wild-sourced material grown here on-site and added to the collection because we can't just go down to the local store and buy it," says Vice President of Horticulture Andrew Wyatt. "Unfortunately, right now we have to buy a lot of material, but the goal is to get to a point where we're producing at least 95 percent of our plant material in-house."



(above) The Garden's aroid collection is considered one of the largest in the world, and it is all housed in one of the 18 greenhouses.

(opposite) The existing greenhouses have reached their capacity over the years, with little room to grow plants to add to the living collections. (photos by Maddy Gordon)

PLANT DISTRIBUTION BY GREENHOUSE

3	orchid collection
2	aroid collection
1	plants collected by researchers
3	foliage plants for floral display shows
1/2	cacti and succulents
1/2	aquatic plants
1	newly propagated plants
1	shade in the summer
4	production of spring and summer bedding plants and the floral display shows
1	stock plants or cuttings
1	production of wild-sourced species

The Garden produces about 200,000 individual plants every year for the annual displays, most of which is commercially sourced. The new nursery will add much-needed space to grow most of these as well as plants of conservation concern that can be added to the permanent living collection. (photo by Maddy Gordon)

A NEW NURSERY FOR THE GARDEN

Whether plants are grown for conservation purposes or for display, the Garden is one step closer to achieving that goal. A plan is being finalized to have a new nursery in operation by the spring of 2016. This new off-site facility will alleviate some of the space issues in the existing greenhouses by adding about 6.5 acres of working space for horticulturists. It will strongly support the Garden's mission to discover and conserve some of the plant world's rarest and most threatened species and share the knowledge with others. "Any plants that we can grow ourselves and add to the Garden's living collections are a tool for both conservation and education purposes," Wyatt says. "They will allow our visitors to see a diversity of plants and have an understanding of their habitats and their importance."

Having the space to grow plants to add to the permanent collection will do more than just decrease the Garden's reliance on commercially sourced plants for its displays. The new nursery will provide an incomparable learning space for Garden horticulturists. Horticulture is more than a love of gardening; it's a science that includes understanding propagation and cultivation to be able to grow plants.



Dr. Quinn Long and Dr. Matthew Albrecht of the Garden's Center for Conservation and Sustainable Development (CCSD) collected seeds of *Marshallia mohrii* last summer in the Ketona Glades in Alabama as part of their effort to seedbank rare species of the southeastern U.S. Since no germination studies had been published for the species, they initiated a study for which data recording is being concluded today. They shared the many seedlings that resulted from this experiment with Garden Horticulturist Justin Lee, who is propagating them for inclusion in the Garden's living collections. (photo by Maddy Gordon)



Investing in the science of horticulture is not just essential to the Garden's reputation as a top botanical institution but to conserving plants and the environment as well.
(photo by Erin Whitson)

Each time they sow a seed or pot a plant, a wealth of information available at that time is recorded: the type of soil, the process to break the seed's dormancy, the germination success rate, etc. "That information is very key to generate knowledge over time," Wyatt says. "So if we don't grow plants and continue buying them, we will not be able to generate and gain that knowledge that comes from that growth process as well."

The nursery will allow the resources currently allocated to commercially source the Garden's plant material to be reallocated and used for essentials like soil, pots, and containers, and for long-term investments in the Garden's future as a top botanical institution: developing horticultural skill and collecting plants in the wild, and enabling the Garden to tailor its collections for more conservation. By investing in the future of horticulture, the Garden is investing in the future of plant biodiversity around the world.

GARDEN *for the* WORLD
capital campaign

THANK YOU!

Since the spring issue of the *Bulletin*, we have raised more than $350,000 toward our $1.2 million goal to reopen Henry Shaw's Museum. Hundreds of members and donors have contributed to this exciting project. Each contribution truly makes a difference.

These donations are also helping us reach our total campaign goal of $100 million. We have raised more than $82 million as of this publication for a variety of projects and initiatives. To donate or to learn more about these campaign projects, please visit **www.mobot.org/fortheworld**.

A SPECIAL EVENT

The Garden is proud to host donors making gifts of $500 or more to the capital campaign for a special recognition event on Tuesday, July 21.

Make a gift of $500 or more and receive two tickets to the event.

Gifts of $500–$999
Can be paid in 12 monthly contributions

Gifts of $1,000–2,400
Can be paid in 24 monthly contributions

Gifts of $2,500 and above
Can be paid in 36 monthly contributions

HOW TO GIVE

Visit **www.mobot.org/fortheworld**, use the campaign envelope in this *Bulletin* to mail a gift, or call (314) 577-5118 to make a gift over the phone or for more information.



Lantern Story Maps

Take the Lantern Festival With You and Go Beyond the Metal and Silk

In ancient Chinese legends, the Flower Fairy oversees all the flowers on Earth, determining their color, blooming season, scent, location, and other qualities. Flowering, however, is a complex process dictated by day length and temperature and has been affected by climate change. Considering plants have ecological, economic, and medicinal uses, it is crucial to study its impact on plants and the environment. From China to Missouri, Garden researchers are studying how changes in climate are disrupting pollination patterns, plant physiology, and plant-animal symbioses.

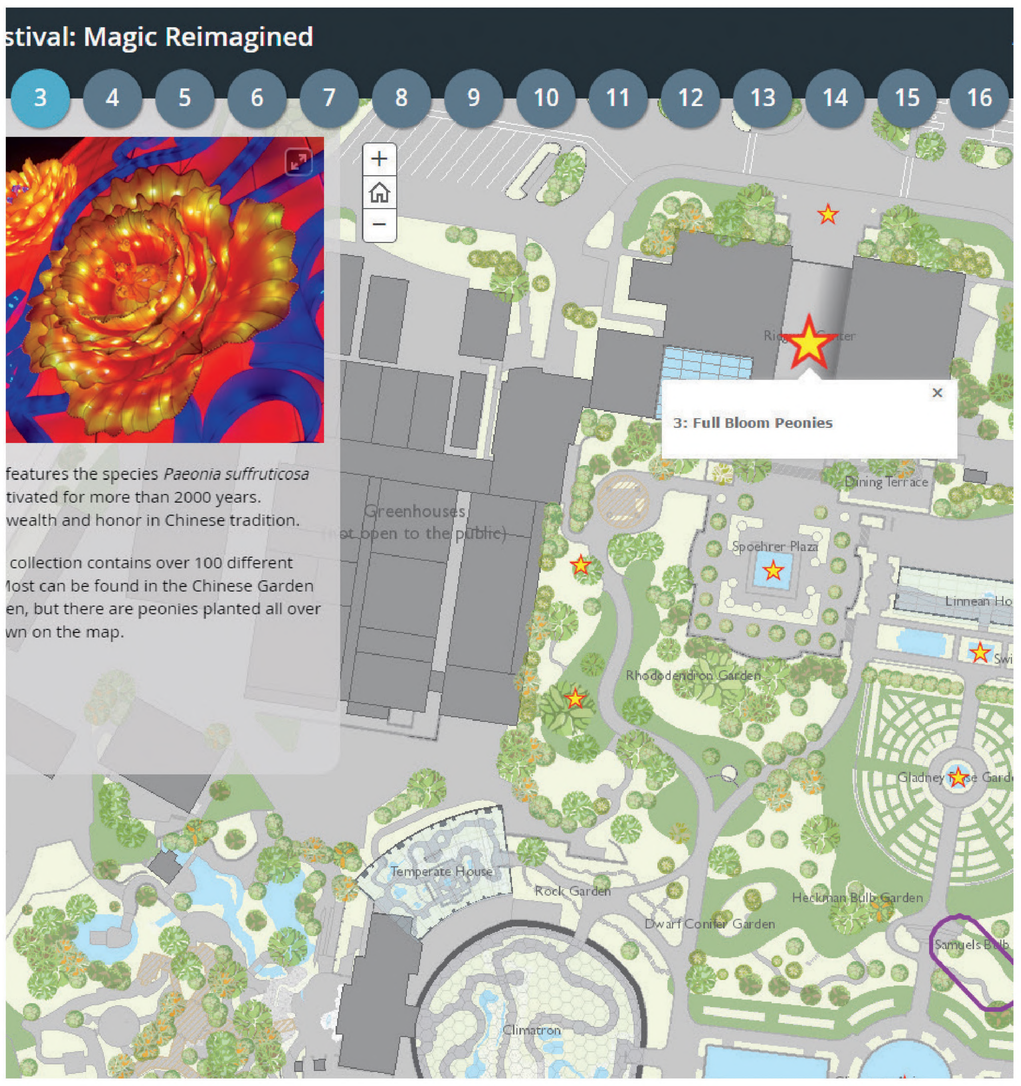
Behind the metal, silk, and lights that make up each of the installations in this year's *Lantern Festival: Magic Reimagined* are stories that capture legends, cultural references, and connections with the Garden. Flower Fairies, located in the Bottlebrush Buckeye pathway, is just one example. With a new web application, available at **www.mobot.org/lanternfestival**, the Garden invites visitors to discover these stories and immerse themselves in this summer's blockbuster exhibit.

The application, called a story map, utilizes interactive maps as a means of organizing and presenting stories related to the lanterns and our plant collections. The app was developed to map and describe various plant collections on Garden grounds, starting with the stories of some of our notable trees. However, Senior Publications Manager Liz Fathman recognized its potential as a

way to enhance the Lantern Festival experience. "I saw a way to combine multiple layers in a single application: lantern stories, plant stories, and their locations on a single map of the Garden," Fathman says. "We are excited about the potential for this tool going forward as a way to offer visitors multiple interpretations, allowing them to choose which stories they are interested in."

The lanterns were designed to celebrate China's flora, the Garden's horticultural and research work, and the importance of plant conservation. Using data from the Garden's Living Collections Management System and geographic information system (GIS) software, the map shows all of the installations and their corresponding stories on Garden grounds. Visitors can navigate to each of the lantern installations, click on the features in the associated map, and read more about the lantern or plant stories. Each of these options will have photos, descriptions, and interesting facts that expand upon the brief description in front of the lantern. "The living collection is made up of over 16,000 taxa and are at the heart of our mission," says Rebecca Sucher, Living Collections Manager at the Garden. "We are excited to use this new tool to tie the beautiful lanterns to our collections and promote an understanding of the connections among people, plants, and the environment."

photo by Maddy Gordon



The Lantern Festival app will allow visitors to navigate to each installation, click on the features in the associated map, and read more about the lantern or plant stories.

LANTERN FESTIVAL

magic reimagined

Presented by EMERSON

Sponsorship by Ameren Missouri Pure Power, Anheuser-Busch, The Boeing Company, Centene Charitable Foundation, Missouri Botanical Garden Corporate Council, the Crawford Taylor Foundation, Drury Hotels Company, Mr. and Mrs. Charles P. Gallagher United Fruit & Produce Company, Ms. Elizabeth L. Green, The Konzen Family, Jeanne and Steve Maritz, Missouri Botanical Garden Members' Board and alumni, Sachs Properties, Judy and Gene Toombs, UMB Bank, Wells Fargo Advisors, Missouri Botanical Garden Young Friends Council and alumni.

May 23 to August 23

www.mobot.org/lanternfestival

NIGHT *of* MAGIC

Lantern Festival Premiere Gala

MAY 22 | 6:30 P.M.

Tickets: $250; available at **www.mobot.org/memberevents.**

Members-Only Night

MAY 26 | 6–10 P.M.

Tickets: $11 adults; $5 children

www.mobot.org/memberevents.

Just for members

Member tickets are half price!

Purchase your tickets online or at the ticket counter now. You can also purchase tickets by phone at (314) 678-7442.

PLUS! Present your membership card at the Membership Services Desk during the festival and receive a special edition Lantern Festival bamboo fan*.



* Limit one per membership. While supplies last.

Butterfly House



The addition of Nature T·R·E·K will be the largest exhibit expansion into the Native Butterfly Garden since it opened 15 years ago. (photo by Kevin Wolf)

Discovering Nature With Senses

Primarily used as a special events space, the Native Butterfly Garden habitat at the Sophia M. Sachs Butterfly House is located in the back of the main building for visitors of all ages to enjoy. However, this half-acre green space is often overlooked, with only about half of everyday attendees venturing out there each year. This summer, the Butterfly House invites visitors to discover its backyard and experience Nature T·R·E·K, a sensory trail where families come Together to Respect, Engage, and gain Knowledge in nature.

Nature T·R·E·K was made possible by the support of the Nature Play Begins at Your Zoo & Aquarium grant by the Association of Zoos and Aquariums (AZA) and the Disney Worldwide Conservation Fund. The $5,000 grant provides financial, logistical, and creative support for accredited zoos and aquariums to create projects that connect families to nature play experiences in their communities. The Butterfly House was the first dedicated insect facility in the U.S. accredited by the AZA.

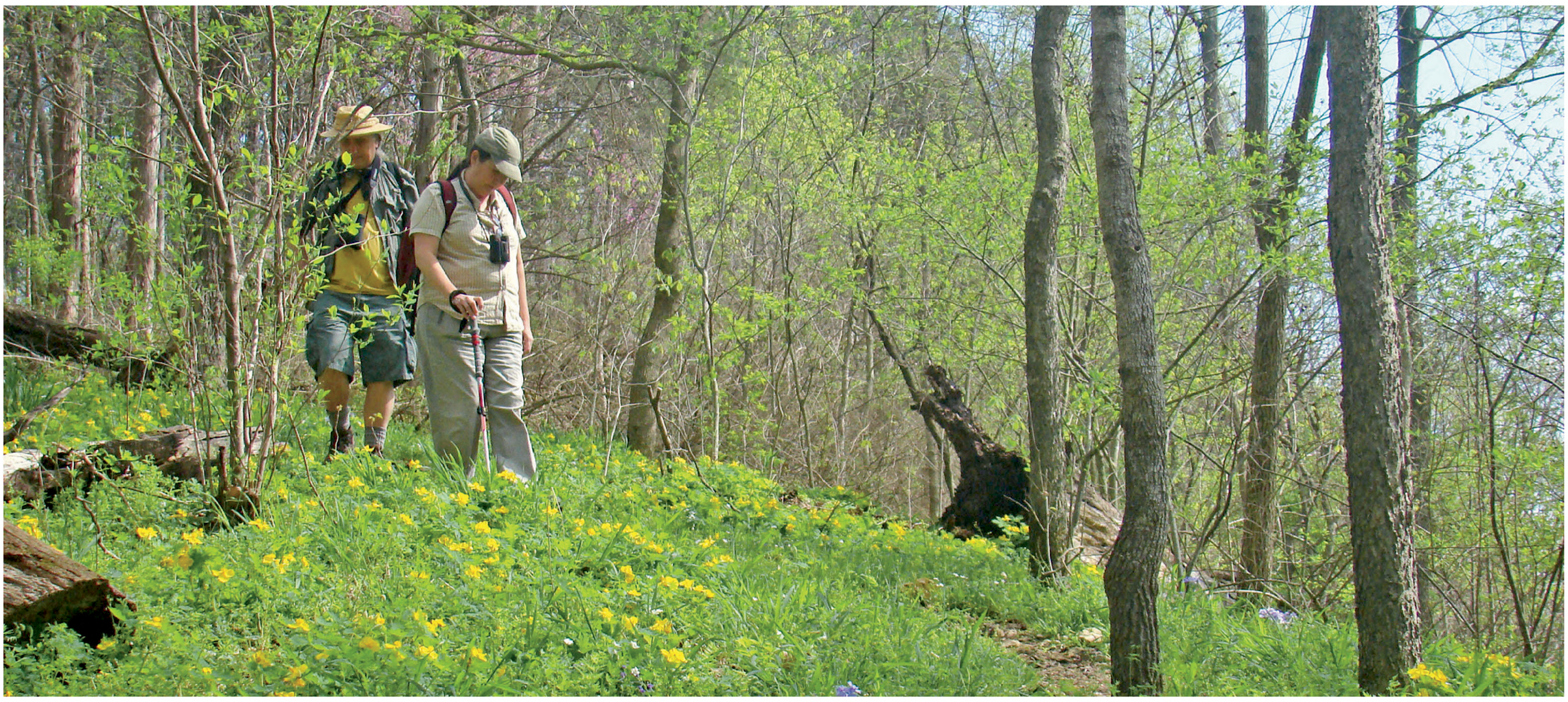
The 250-foot-long trail that runs through the garden features five interactive stations focused on each one of the senses. As visitors enter the garden, lavender, rosemary, and mint in the fragrant garden will delight people's sense of smell. As they approach the new sound deck, visitors can recreate the sound of rain or crickets and frogs as they play different nature instruments. Just around the corner, a honeycomb climbing structure will encourage visitors to learn about the importance of bees and taste a sample of honey when they visit the Butterfly House Gift Shop. Finally, pine cones, tree bark, and magnolia leaves will allow guests to touch and feel different textures found in nature before they head to the rainbow garden and experience a mix of art and colorful, butterfly-friendly plants.

Nature T·R·E·K opens to the public Memorial Day weekend. "We are excited to offer an immersive experience for families who visit the Butterfly House," says Butterfly House Director Vickie Campbell.

If you're interested in supporting Nature T·R·E·K, please contact the Butterfly House at (636) 530-0076 or Institutional Advancement at (314) 577-9500 for more information.

Want more? Come explore the Native Butterfly Garden and the new Nature T·R·E·K at night during the annual Firefly Festival on June 10, 17, and 24. Visit **www.butterflyhouse.org** to learn more.

Shaw Nature Reserve



With 14 miles of well-maintained, scenic trails, the Reserve offers a unique opportunity to get out and explore Missouri's biodiverse ecosystems. (photo by Charles Schmidt)

Escaping the Everyday in Nature

Whether you're an experienced runner or a casual hiker looking for ways to exercise and enjoy the weather, Shaw Nature Reserve features 14 miles of hiking trails with easy to moderate difficulty levels, which means there's something for everyone. The 2,441-acre Reserve sits at the juncture of several natural habitats, so it is uniquely positioned to offer some of the best trails in the St. Louis area with breathtaking landscapes that are second to none.

Some of the most popular trails are the Wolf Run and Brush Creek trails, which are perfect for hot days because of their shaded areas. The Wetland Trail is also a favorite because of the scenic view along the 300-foot boardwalk. For the more surefooted hikers, there is the Wildflower Trail and the Bluff Overlook Trail. For families with young children, two short hikes from the Visitor Center take you to the Nature Explore Classroom and the Whitmire Wildflower Garden.

While there is not a five-mile trail at the Reserve, those wanting to do a longer run can mix and match the different trails and create their own. Reserve Instructor Rachel Weller, an avid runner herself, has done a 16-mile training run at the Reserve and knows others have created their long-distance routes. "One of our local runners did a 20-mile training run here," she says. The Reserve also offers a variety of group hiking and running events that range from the fun and casual—annual Daffodil Dash 5K Trail Run and trail social runs—to the specialty—Hiking with Rover and Full Moon Night Hike for Adults.

At the Reserve, you can experience well-maintained trails with water fountains and restrooms along the way while enjoying nature and some of the local wildlife that you won't see in many other places. "If you're lucky, you get to experience the wonderful biodiversity we have here," says Lydia Toth, Senior Education Manager at the Reserve.



National Trails Day
Saturday, June 6
Shaw Nature Reserve

The Reserve will offer free admission to everyone in celebration of the American Hiking Society's National Trails Day.

For more information about our trails, including maps, suggested routes, and classes, please visit **www.shawnature.org/trails**.



Collecting samples for propagation involves gathering data such as scientific name, description, photos, DNA, GIS coordinates, and habitat notes. (photo by Andrew Wyatt)

Conservation Horticulture

The International Union for Conservation of Nature (IUCN) ranks Mauritius as having the third most endangered flora in the world. Thanks to the support of the St. Louis Herb Society, the St. Louis Master Gardeners, Mr. David Orthwein, and Marion and Van-Lear Black, four members of the Garden's Horticulture team traveled to Mauritius earlier this year as part of a partnership with the Mauritian National Parks and Conservation Service (NPCS) and the Mauritian Wildlife Foundation (MWF) to help repair and rebuild Pigeon Wood Nursery, collect specimens for propagation, provide training and workshops to help conserve the Mauritian flora, and meet with government staff involved in plant conservation there.

At only 100 sq. ft., Pigeon Wood Nursery plays an important role in the effort to conserve rare and endemic plant life on the island. When its misting system stopped working in 2010, plant propagation work was seriously affected, limiting the critical work of conserving some of the island's most threatened species. The nursery is one of the propagation facilities used to house a field gene bank of rare plant species that's run by NPCS and MWF.

The Garden team and MWF staff collected plant samples of rare or endangered species that would be propagated in Pigeon Wood. This sometimes meant hiking or climbing under treacherous conditions because many of the remaining highland plants are located on mountaintops, and few places where these species grow remain untouched by urban development, deforestation for sugar cane production, or invasive species. "There's so much to do to save these plants," says Jennifer Smock, one of the horticulturists who made the trip. "But you don't realize it until you get there and see the problem."

The horticulturists shared their expertise in the precise, detailed process of collecting plants for propagation. This involves gathering data that will stay with the plant throughout its journey from collection to propagation and ultimately planting or reintroduction, helping conservation institutions more precisely track population levels of endangered species.

Learn more! Hear more about the trip as the team gives a free presentation Thursday, June 11 at 11 a.m. in the Shoenberg Theater.



The Tales & Trails summer reading challenge encourages families to pair nature-inspired books with outdoor experiences in nearby parks, markets, etc. (photo by Rachel Weller)

Reading in the Great Outdoors

While research continues to mount on the real loss of math and reading skills during summer break, families looking for ways to prevent this without taking away the fun of the long-awaited and well-deserved vacation can count on programs like Tales & Trails to stay active and keep their brains energized and engaged while having fun. The program was born in 2014 when *BiodiverseCity St. Louis*, a Garden-led community initiative, and the St. Louis Public Library wanted to prompt kids and their families to connect in new ways with nearby nature. More than 100 youth completed the Tales & Trails challenge in its pilot year, pairing nature-inspired books with outdoor experiences like hiking, gardening, picnicking, and camping.

This summer, the Garden is partnering with the Missouri Department of Conservation, St. Louis County Library, St. Louis Public Library, the City of St. Louis, St. Louis County Parks, and Great Rivers Greenway to offer Tales & Trails again to the greater St. Louis region. "St. Louis has so many great parks, trails, gardens, and other green spaces," says Vice President of Education Sheila Voss. "It's like one big outdoor learning lab, really."

Taking a book for a hike, a walk to the park, a trip to the farmer's market, or even just the backyard allows readers to connect their favorite books to the real world in new ways. "There's no better place to read than in nature, and there are hundreds of books that can excite kids about science and the natural world," says Patty Carleton, SLPL Director of Youth Services. "The Garden is a family place, and reading is a family affair, so it's a natural fit."

The program, which starts June 1 and ends August 30, offers a reading log and a list of suggested books and outdoor areas that relate to each book. Participants are also encouraged to choose their own. Once they complete the five-book challenge, families can take their completed log to the Garden, Shaw Nature Reserve, or the Butterfly House to redeem a prize pack, which includes a journal, a water bottle, and other goodies, to reward young readers and outdoor explorers.

Get involved! To learn more about Tales & Trails and to download the reading log, please visit **www.mobot.org/education**.

Member Events

Members-Only Tuesday Nights

Tuesdays in June and July; 5–8 p.m.

Enjoy the beauty of the Garden grounds and these extra benefits: admission to the Children's Garden, docent-led tours, Café Flora, games with the Chess Club and Scholastic Center of Saint Louis, and Science:30 programs in Spink Pavilion, June 9, June 23, July 14, and July 28 (reservations required). For more details, visit **www.mobot.org/membertuesdays.** Lantern Festival will not be lit during Member-Only Tuesday Nights.

Green Homes Festival

Saturday, June 20; 9 a.m.–4 p.m.; Sophia M. Sachs Butterfly House
New location!

Live green and play green with the EarthWays Center at the is day-long celebration of sustainability. Enjoy family activities, presentations, crafts, live music, local food, shopping, and fun. Free festival admission. **www.mobot.org/greenhomesfest.** *Presented by Ameren Missouri.*

Member Event: Family Picnic

Monday, July 13; 5:30–8:30 p.m.

Bring your waste-free picnic or purchase picnic fare on-site. Enjoy music, face painters, crafts, balloon artists, and a chance to play in the Children's Garden after hours! Reservations: (314) 577-5118 or **www.mobot.org/memberevents.** Lantern Festival will not be lit during Family Picnic.

Members Day: Paper Kite Festival

Monday, August 3; 2–4 p.m.; Sophia M. Sachs Butterfly House

Learn how paper kite butterflies are connected to our local monarchs. See kite-building demonstrations and decorate your own kite to take home. Reservations: (314) 577-5118 or **www.mobot.org/memberevents.**



Garden Gallop 5K

Sunday, August 16; 7–9 a.m.

Join the Young Friends of the Garden for our summer 5K fun run! All proceeds benefit the Children's Garden. Participants receive a commemorative run shirt. $30 members and virtual runners; $40 for nonmembers. Advance ticket purchase required: **www.mobot.org/gardengallop.**

Members Day: Vital, Beautiful Native Plants

Tuesday, August 18; 11 a.m. to noon; Shoenberg Theater

Join us as Shaw Nature Reserve's Scott Woodbury discusses the importance of native plants, the roles they play for Missouri wildlife, and how they can enhance your garden. Reservations: (314) 577-5118 or **www.mobot.org/memberevents.**



Whitaker Music Festival

Wednesdays
May 27–July 29*
Concerts at 7:30 p.m.
Free admission after 5 p.m.

May 27	David Dee & the Hot Tracks
June 3	Diesel Island
June 10	Nikki Hill
June 17	Joe Mancuso
June 24	Jeremiah Johnson Band
July 1	Saint Louis Social Club
July 8	Erin Bode Group
July 15	Loot Rock Gang
July 22	Magnolia Summer
July 29	Tommy Halloran's Guerrilla Swing

Funded by WHITAKER FOUNDATION

**Lantern Festival will not be lit during Whitaker nights*

Shop & Dine

Firefly Festival Sale

June 10, 17, and 24; Butterfly House Gift Shop

Celebrate the annual Firefly Festival with 10% off at the Butterfly House Gift Shop on the evenings of the event. Members enjoy an additional 10% off throughout the store. See gift shop for more details.

Little Shop Big Sale

June 6; 10 a.m.–4 p.m.; Little Shop Around the Corner

Enjoy 40 to 70% off storewide (no additional discounts) and browse through our vintage merchandise including crystal, home decor, antique items, furniture, and more!

Staff and Volunteer Sale

June 18–22; Garden Gate Shop, Butterfly House Gift Shop, and Little Shop Around the Corner

As a thank you for making the Garden a world-class botanical institution and destination, all Garden staff and volunteers receive an extra 10% off their purchases.

Member Days Sale

June 25–29; Garden Gate Shop, Butterfly House Gift Shop, and Little Shop Around the Corner

Don't miss this opportunity when all Garden members receive 20% off purchases in the shops during this five-day special sale.

Bug Hunt Sale

July 11; 9 a.m. to 5 p.m.; Butterfly House Gift Shop

Gear up for Bug Hunt at the Butterfly House Gift Shop and save 10% on all insect-hunting equipment and supplies such as nets, containers, and more. Members receive an additional 10% discount. See gift shop for details.

Eric Carle Sale

July 17–18; 9 a.m. to 5 p.m.; Butterfly House Gift Shop

To celebrate Breakfast with The Very Hungry Caterpillar, enjoy 10% off all Eric Carle merchandise in the Butterfly House Gift Shop, including books, toys, and more. Members receive an additional 10% discount. See gift shop for details.

The Chronologers' Quest Book Signing

July 30; 3 p.m.; Garden Gate Shop

Meet author Dr. Patrick Wyse Jackson during this special book signing event after his lecture at 2 p.m. in Shoenberg Theater on his book that tells the fascinating story of attempting to determine the age of the Earth.

Iris Sale

August 16–31; 9 a.m. to 5:30 p.m.; Garden Gate Shop

Shop a wide selection of irises for your garden.



photos by LeeAnne Gomes and Christopher Gibbons

Café Flora

Brunch at Spink Pavilion

Sunday mornings

Now through October

www.mobot.org

Paper Kite Festival Sale

August 1–31; 9 a.m. to 5 p.m.; Butterfly House Gift Shop

Celebrate the annual Paper Kite Festival with 10% off kites during August and 10% off throughout the shop on Paper Kite Family Sundays. Members receive an additional 10% discount. See gift shop for details.

Don't forget to stop by the Garden Gate Shop's tent in Linnean Plaza or Café Flora in Spink Pavilion during Lantern Festival!

Garden Gate Shop
4344 Shaw Blvd.
St. Louis, MO 63110
Monday–Sunday
9 a.m. to 5:30 p.m.
(314) 577-5137

Butterfly House Gift Shop
15193 Olive Blvd.
Chesterfield, MO 63017
Tuesday–Sunday
9 a.m. to 5 p.m.
(Memorial Day–Labor Day)
(636) 530-0076 ext. 15

Little Shop Around the Corner
4474 Castleman Ave.
St. Louis, MO 63110
Tuesday–Saturday
10 a.m. to 4 p.m.
(314) 577-0891

The Story of the Victorian Distrcit's

Pincushion Garden



Institutional Advancement and Education staff help horticulturists plant succulents. In 2014, it took 10 people per day to plant the beds in two weeks. (photo by Tom Incrocci)

The Pincushion Garden is located in the Doris Waters Harris Lichtenstein Victorian District. It was inspired by beds that once greeted Garden visitors at the original Flora Gate entrance—now Spink Pavilion—in the early 1900s. It was first planted with succulents in 2012, which took 20 staff members nine days to complete.

Every year the process begins with Garden horticulturist Jennifer Smock creating a design, keeping in mind the beds must be planted from the center out. Working with the Publications department, she then creates templates for each of the 20 beds. In May, staff members from all over the Garden help for at least one week to place, one by one, 35,000 to 40,000 succulents such as *Delosperma rogersii* 'Mini Wine', *Echeveria* 'Black Prince', *Faucaria* 'Jaws', and *Sedum rupestre* 'Lemon Coral'.

"With no historical records to work from, it's been a learning experience, from growing medium and plant selection to drainage, irrigation, and planting methods," says Smock. "The first year had a 50 percent failure rate, and now it's less than 10 percent."

Hot and humid St. Louis summers combined with poorly draining clay soil have presented challenges. Like cacti, succulents store water in their leaves, but unlike cacti, they flourish in cooler temperatures. "The first year I placed thermometers in the sand and found it got five or more degrees hotter than the air temperature," Smock says. "It is a fine balance we have to find as some of them don't need the extra water, but we have to mist them once the temperature reaches 95°F." This summer she is conducting trials in a separate area by Shaw's Museum to test how new species will perform and incorporate them in the future.

At the end of the season, each plant is removed from the bed and taken to the greenhouse. There, it takes Garden horticulturists and volunteers approximately one month to clean, take cuttings, and replant them for next year's display.

Don't miss it! Visit the Pincushion Garden, now on display, and marvel at the intricate succulent designs that celebrate the Victorian era, St. Louis, and the Garden.

Commemorative Gifts

January–March 2015.
A commemorative gift is a wonderful way to honor family and friends. Gifts of $50 or more are listed in the *Bulletin*. For more information about giving opportunities at the Missouri Botanical Garden, please call (314) 577-5118 or make a commemorative gift at **www.mobot.org/tributes**.

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Annette Schoenberg

Sharron Pollack
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photo by Josh Nezam

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Members' Entry Court

January–March 2015

For more information, call (314) 577-5118 or visit **www.mobot.org/donate**.

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Larry Levin

Lois Levin
Larry Levin

John and Holly Drabik
Holly Drabik

Mr. Vernon House
Mr. and Mrs. Gordon House

Les & Helen Simon Family
Ms. Rosalie Seemann

Engraved Clay Bricks

Jack Copeland
Ms. Sharon Lamkin

David M. Gates
Ms. Lara Gates

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Ann Goldsmith

Faith Bircher Jotte
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Mr. and Mrs. Victor Meyer
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Mrs. Lisa M. Rieman

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Barbara Lynn Schloessman
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Butterfly House

January–March 2015

Call (314) 577-5118 or visit **www.butterflyhouse.org/donate** to learn more.

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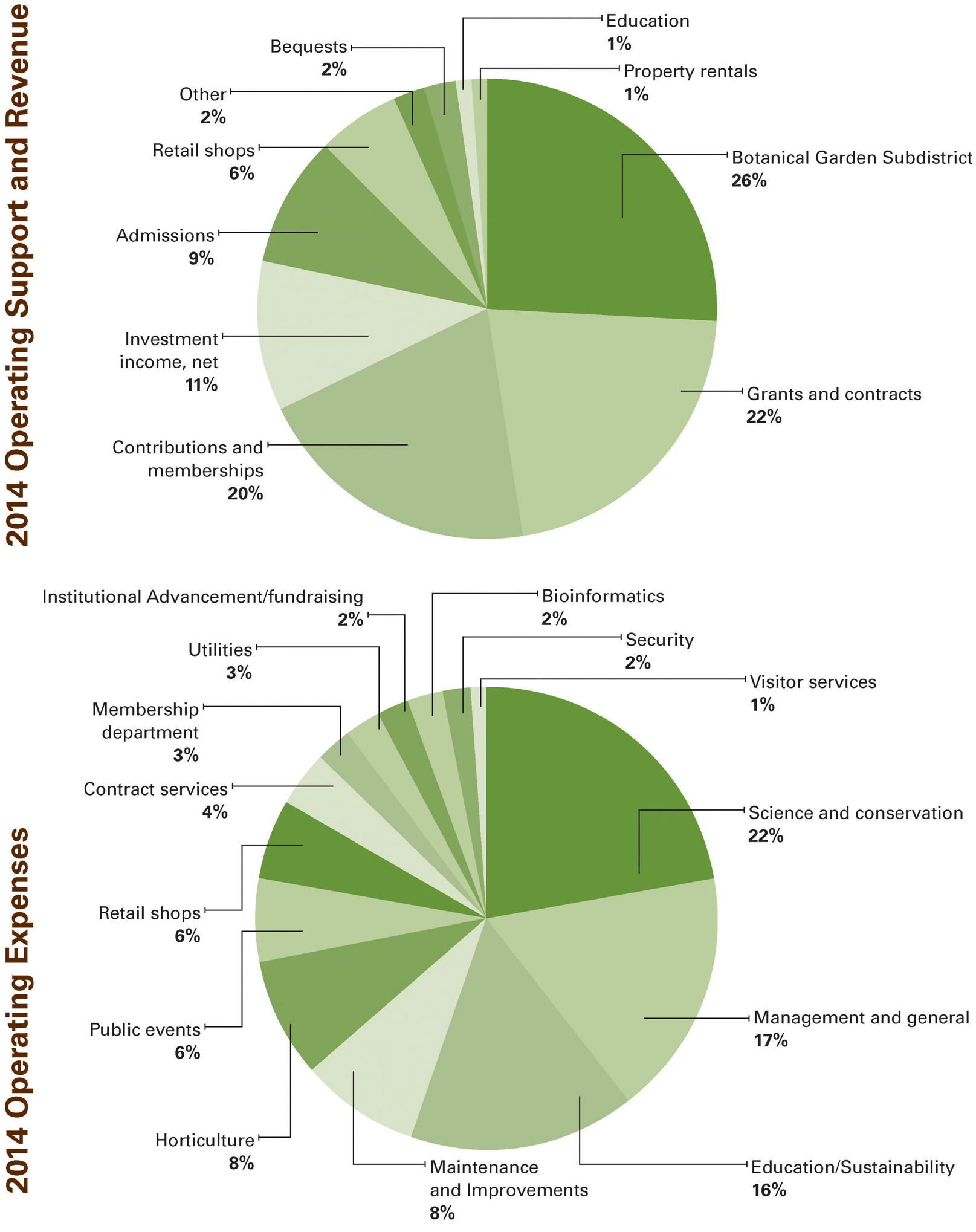
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Bill Vinyard



Revenue and Expenses for the Garden in 2014

Excerpted from the Missouri Botanical Garden's 2014 Annual Report, these charts represent the operating support and revenue as well as operating expenses for the Garden's family of attractions, including the Sophia M. Sachs Butterfly House, Shaw Nature Reserve, and Litzsinger Road Ecology Center. The charts provide an overview of the Garden's sources of support and also illustrate how funding is used to advance our mission and strategic goals.

You will see 20% of our operating support comes from contributions and memberships—that is, you. Your support as a member is essential to our horticultural displays, cultural events, education programs, science and conservation work, and much more. Thank you for contributing to our success.

To learn more about the discoveries, achievements, and finances of the Garden in 2014, please review the Annual Report at **www.mobot.org/reports**.

Heritage Society



Ralph Olliges: Sharing the Garden with the Next Generation

Teachers are often lifelong students, and Dr. Ralph Olliges is no exception. One of the things he loves about the Missouri Botanical Garden is all the different opportunities to learn. But what first drew him to the Garden were the plants."I've been coming to the Garden for 30 years because of the beauty and the quality of the displays," Ralph says. "I now belong to three different plant societies. If you grow plants, you know that you will also kill plants. So I wanted to learn: Why did that die? How can I do better?"

Dr. Olliges is an associate professor in the Department of Multidisciplinary Studies at Webster University in St. Louis, and it's important for him to share his love of plants and the natural world with his students. Each semester, he connects 16 or 17 undergraduate students to the wonders of the Garden through Webster's first-year seminar program."The Missouri Botanical Garden is one of the top three botanical institutions in the world," Ralph says, "so we can share a quality experience that enhances their education." For example, he says, they study the gardens of China, Japan, and England, and see them first-hand at the Garden. Then, his students select a garden from another culture to study and report back to the class.

The Garden can be a connection to many different fields of study, from history to chemistry to geography and beyond, making it an ideal tool for engaging students in a first-year seminar and connecting them to a variety of topics. "We might look at baggies of different soil types," Ralph explains, "and talk about porous rocks, drainage, pH, acids and bases, and the chemistry of how things grow. Or each student might do a podcast on whichever one of the 23 demonstration gardens in the Kemper Center for Home Gardening interests them most. We can visit Tower Grove House and learn about changes in technology from the Victorian era on."

Preservation of history is just as important to Dr. Olliges as the future, so he was quite excited to hear about the reopening of Henry Shaw's Museum as part of the *Garden for the World* campaign. He made a gift to support that initiative and is looking forward to touring the museum with his students one day soon.

Every year or two, one of Dr. Olliges's students will make a point of telling him they've become a member of the Garden. He loves being a part of sharing the Garden with a new generation and igniting interest in his students. Dr. Olliges has also joined the Heritage Society and designated the Garden as a beneficiary of his IRA to further preserve the Garden for future generations. "The opportunity to share my excitement and see the growth in my students is so important," Ralph says. "I'd like to see those opportunities continue far into the future."

photos by Kristine Gruver and Josh Nezam



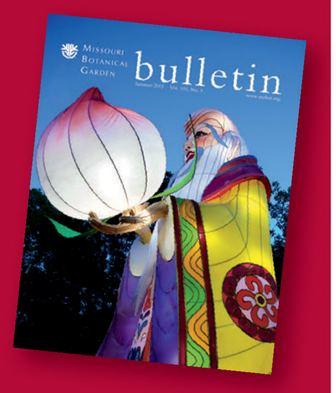
The Garden as a Beneficiary in Your IRA or Pension Plan

Some members of the Heritage Society chose to name the Garden as a beneficiary on their retirement asset such as an IRA, 401(k), 403(b), or pension plan. They do so to avoid passing a costly asset to loved ones and bypass any income tax due.

To learn more about the types of planned gifts and to read stories from some of our members, please visit **www.mobot.org/plannedgiving**. For more information about naming the Garden as a beneficiary or to inform us of your intent, please contact Joyce Pluhar at (314) 577-5199 or **joyce.pluhar@mobot.org**.

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JAPANESE FESTIVAL
Labor Day weekend | September 5–7
Hours and tickets at www.mobot.org

photo by Josh Mokenv



Military Appreciation Week

June 28 through July 5

Your valid military ID is your ticket to 20% off membership during Military Appreciation Week! Just show your ID at the Membership Services Desk, the Butterfly House, or Shaw Nature Reserve to qualify for the discount.

Members-Only Tuesday Nights

Tuesdays in June and July 5 to 8 p.m.*

We love our members, and we want to say thank you! Enjoy the beauty of the Garden and these extra benefits:

- Admission to the Doris I. Schnuck Children's Garden
- Docent-led tours, with a different theme each week
- Café Flora in Spink Pavilion
- Games with the Chess Club and Scholastic Center of Saint Louis
- Science:30 programs in Spink Pavilion, June 9, June 23, July 14, and July 28

Science:30 programs feature a different half-hour discussion and speaker each evening and require reservations.

www.mobot.org/membertuesdays

**Lantern Festival will not be lit during Members-Only Tuesday nights*

bulletin calendar

June | July | August



www.mobot.org/events



Whitaker Music Festival

Wednesdays, May 27–July 29*

Concerts at 7:30 p.m.
Free admission after 5 p.m.

May 27	David Dee & the Hot Tracks	July 8	Erin Bode Group
June 3	Diesel Island	July 15	Loot Rock Gang
June 10	Nikki Hill	July 22	Magnolia Summer
June 17	Joe Mancuso	July 29	Tommy Halloran's Guerrilla Swing
June 24	Jeremiah Johnson Band		
July 1	Saint Louis Social Club		

Funded by WHITAKER FOUNDATION

**Lantern Festival will not be lit during Whitaker nights*



Herbs & Heirlooms Tuesdays

Tuesdays, June 2–August 25
10 a.m. to noon

Explore a different herb every week, pot an herb to take home, and learn more about ways to care for and use your new plant. Included with Garden admission.

Illinois Appreciation Week

June 7 through 13

Your Illinois ID is your ticket to 20% off membership during Illinois Appreciation Week! Just show your ID at the Membership Services Desk, the Butterfly House, or Shaw Nature Reserve to qualify for the discount.



HAPPY BIRTHDAY, HENRY!

Free admission for all visitors on July 24.

LANTERN FESTIVAL

magic reimagined

Presented by EMERSON

May 23 to August 23

www.mobot.org/lanternfestival

Celebrate the Garden's ongoing work in China and the growing number of botanical gardens there with 22 all-new sets made of silk, wire, and porcelain. Every installation is closely tied to China's plants, legends, and popular sites.

PLUS! Member tickets are half price!

Sponsorship by Ameren Missouri Pure Power, Anheuser-Busch, The Boeing Company, Centene Charitable Foundation, Missouri Botanical Garden Corporate Council, the Crawford Taylor Foundation, Drury Hotels Company, Mr. and Mrs. Charles P. Gallagher United Fruit & Produce Company, Ms. Elizabeth L. Green, The Konzen Family, Jeanne and Steve Maritz, Missouri Botanical Garden Members' Board and alumni, Sachs Properties, Judy and Gene Toombs, UMB Bank, Wells Fargo Advisors, Missouri Botanical Garden Young Friends Council and alumni.

June 2015

average temperature: low 66°, high 86°
average precipitation: 3.73 in.

What's in bloom?


Sweet William


Foxglove


Common poppy

6/2	✿ Members-only Tuesday Night
6/3	Whitaker Music Festival: Diesel Island, 7:30 p.m. CA
6/6	Little Shop Big Sale, 10 a.m. to 4 p.m. LS
6/6	National Trails Day –FREE admission all day SNR
6/7–6/13	Illinois Appreciation Week, 9 a.m. to 5 p.m.
6/8	Lantern Festival: Lanterns at Your Leisure, 7 to 10 p.m.$ ☎
6/9	✿ Members-only Tuesday Night: Science:30, 6:30 p.m. ☎
6/10	Whitaker Music Festival: Nikki Hill, 7:30 p.m. CA
6/10	Firefly Festival, 8 to 9:30 p.m. $ ☎ BH
6/16	✿ Members-only Tuesday Night
6/17	Whitaker Music Festival: Joe Mancuso, 7:30 p.m. CA
6/17	Firefly Festival, 8 to 9:30 p.m. $ ☎ BH
6/18–6/22	Staff and Volunteer Sale at the shops, GGS, BH, LS
6/20	Green Homes Festival, 9 a.m. to 4 p.m. BH –New location!
6/23	✿ Members-only Tuesday Night; Science: 30, 6:30 p.m. ☎
6/24	Whitaker Music Festival: Jeremiah Johnson Band, 7:30 p.m. CA
6/24	Firefly Festival, 8 to 9:30 p.m. $ ☎ BH
6/25–6/29	Members 20% Sale at the shops, GGS, BH, LS
6/28–7/5	Military Appreciation Week
6/30	✿ Members-only Tuesday Night

$10 OFF

Your purchase of $50 at the shop's Lantern Festival tent

For Garden members only. Not valid for purchase of a membership. One coupon per purchase. Expires 8/23/2015. See shop for details.

Garden Gate Shop

July 2015

average temperature: low 71°, high 91°
average precipitation: 3.78 in.

What's in bloom?


Florida swamp lily


Hibiscus


Water lily

6/28–7/5	Military Appreciation Week
7/1	Whitaker Music Festival: Saint Louis Social Club, 7:30 p.m. CA
7/7	✿ Members-only Tuesday Night
7/8	Whitaker Music Festival: Erin Bode Group, 7:30 p.m. CA
7/11	Bug Hunt, 10 a.m. to 3 p.m. $ ☎ BH
7/13	✿ Member Event: Family Picnic, 5:30 to 8:30 p.m. ✿ ☎
7/14	✿ Members-only Tuesday Night; Science: 30, 6:30 p.m. ☎
7/15	Whitaker Music Festival: Loot Rock Gang, 7:30 p.m. CA
7/17–7/18	Breakfast with The Very Hungry Caterpillar, 9 to 10 a.m. $ ☎ BH
7/17–7/18	Eric Carle Sale, 10 a.m. to 4 p.m. BH
7/20	Lantern Festival: Photographers Only, 7:30 to 10 p.m. $ ☎
7/18	Henry Shaw Cactus and Succulent Society Show and Sale, 9 a.m. to 10 p.m. RVC
7/19	Henry Shaw Cactus and Succulent Society Show and Sale, 9 a.m. to 5 p.m. RVC
7/21	✿ Members-only Tuesday Night
7/22	Whitaker Music Festival: Magnolia Summer, 7:30 p.m. CA
7/24	Henry Shaw's Birthday, 9 a.m. to 5 p.m.
7/28	✿ Members-only Tuesday Night; Science: 30, 6:30 p.m. ☎
7/29	Whitaker Music Festival: Tommy Halloran's Guerrilla Swing, 7:30 p.m. CA
7/30	*The Chronologers' Quest* lecture and book signing with author Dr. Patrick Wyse Jackson, 2 p.m. ST



August 2015

average temperature: low 69°, high 88°
average precipitation: 3.7 in.

What's in bloom?


Okra


Glory bush


Zinnia

8/1–8/23	Lantern Festival: Magic Reimagined open nightly, *through August 23*, 6 to 10 p.m. $
8/1	Registration for Fall/Winter classes begins, www.mobot.org/classes
8/1	Missouri Botanical Garden Daylily Association Sale, 9 a.m. to 5 p.m. RVC
8/1–8/31	Paper Kite Festival Sale, 9 a.m. to 5 p.m. BH
8/2	Corporate Partners Day
8/2	Paper Kite Butterfly Festival, 10 a.m. to 3 p.m. BH
8/3	✿ Members Day: Paper Kite Festival, 2 to 4 p.m. ✿ ☎ BH
8/9	Paper Kite Butterfly Festival, 10 a.m. to 3 p.m. BH
8/15–8/16	Greater St. Louis Iris Society Show and Sale, 9 a.m. to 5 p.m. RVC
8/16–8/31	Iris Sale, 9 a.m. to 5:30 p.m. GGS
8/16	Garden Gallop 5K, 7 to 9 a.m. $ ☎
8/16	Paper Kite Butterfly Festival, 10 a.m. to 3 p.m. BH
8/18	✿ Member Day: Vital, Beautiful Native Plants, 11 a.m. to noon ✿ ST ☎
8/23	Paper Kite Butterfly Festival, 10 a.m. to 3 p.m. BH
8/30	Paper Kite Butterfly Festival, 10 a.m. to 3 p.m. BH



Don't forget!



Garden Gallop 5K

Sunday, August 16; 7–9 a.m.

Join the Young Friends of the Garden for our summer 5K fun run! All proceeds benefit the Children's Garden. Participants receive a commemorative running shirt. Advance ticket purchase required. **www.mobot.org/gardengallop.**



Member Event: Family Picnic

*Monday, July 13; 5:30–8:30 p.m.**

Enjoy music, crafts, a chance to play in the Children's Garden after hours, and more! Reservations required: (314) 577-5118 or **www.mobot.org/memberevents.**

***Lantern Festival will not be lit during Family Picnic**



Plant Societies Shows and Sales

Get the latest information about your favorite plant society's show and sale by visiting **www.mobot.org/plantsocieties.**

KEY (All events take place at the Garden unless otherwise noted.)

BH	Butterfly House	KC	Kemper Center for Home Gardening
BHGS	Butterfly House Gift Shop	LS	Little Shop Around The Corner
CA	Cohen Amphitheater	MC	Monsanto Center
CBEC	Commerce Bank Center for Science Education	MH	Monsanto Hall (in RVC)
CHD	Children's Garden	RVC	Ridgway Visitor Center
CL	Climatron lawn	SNR	Shaw Nature Reserve
GGS	Garden Gate Shop	SP	Spink Pavilion
JE	Jordan Education Wing (in RVC)	ST	Shoenberg Theater (in RVC)

Sassafras
✿ Members-only event
✿ 20% Member discount at the shops
☎ Reservations required
$ Fee required

photos by (front) Heather Marie Osborn, Lee Anne Gomes, and Molly Krohe. (this page) Lisa Francis, Tom Incrocci, Kerri Carter, Lisa Delorenzo Hager, Josh Nezam, and Flannery Allison.

Missouri Botanical Garden

bulletin

Fall 2015 Vol. 103, No. 4 www.mobot.org

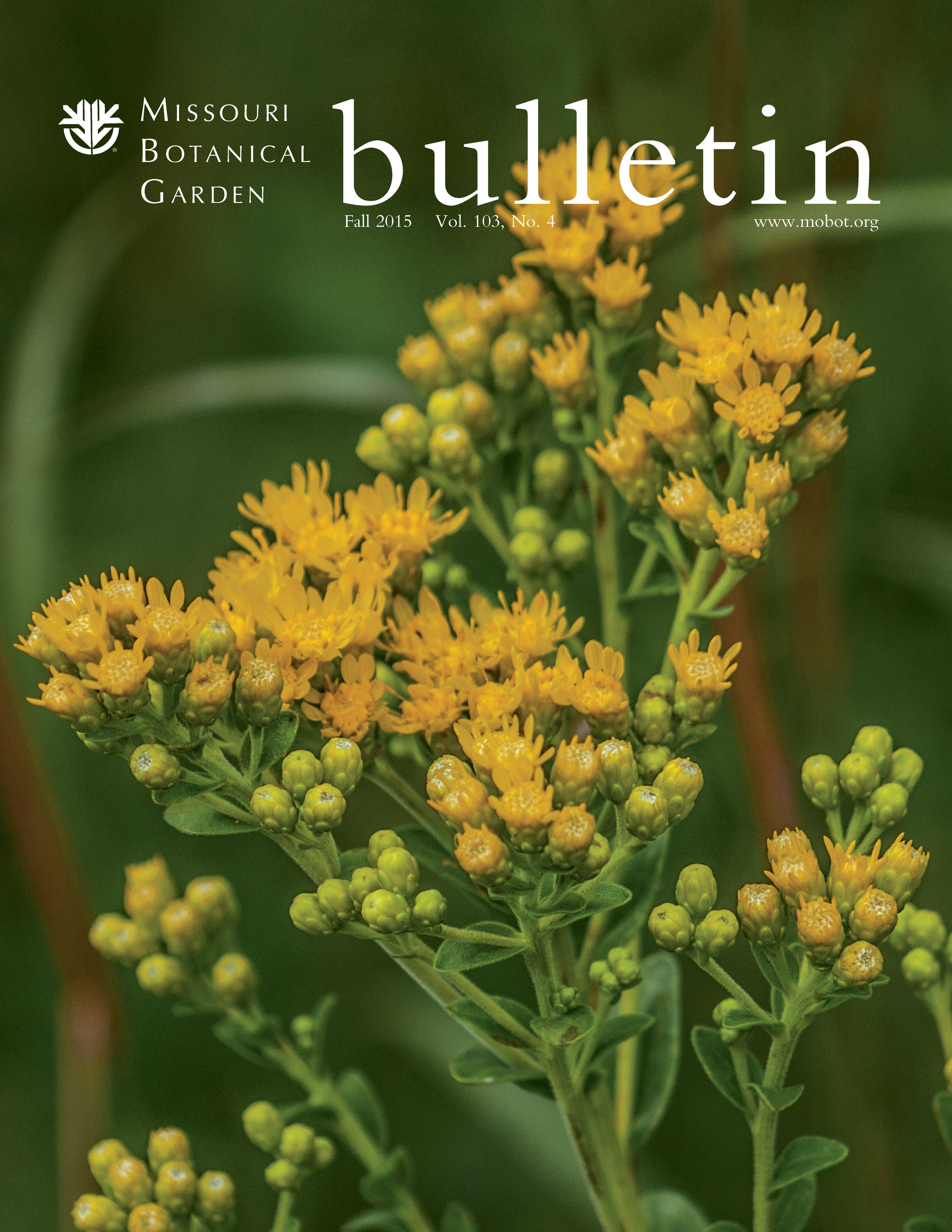




photo by Koraley Northen

President's Comment

Seems like summer is always a busy time of year—lots of activities, travel, and festivals. And summer at the Missouri Botanical Garden, Sophia M. Sachs Butterfly House, and Shaw Nature Reserve was no different. In addition to the wide variety of classes, concerts, and member events we offer every year, this summer we also hosted our second Chinese Lantern Festival. The exhibit, which celebrated China's magnificent flora and the Garden's work to discover and protect it, was so popular that we extended it by a week.

Through it all, conservation work continues locally and throughout the world, and we are excited to be a part of some of these efforts. From *ex situ* conservation inside the Climatron (see page 16) and cataloging the species at the Reserve (see page 15) to St. Louis's Milkweeds for Monarchs Workshop (see page 7) and conservation in Madagascar and Gabon (see pages 4 and 5), efforts range in size and reach. But make no mistake; they are all important to secure a healthy, biodiverse world for future generations.

As the seasons begin to change, you'll also see changes at the Garden. Most noticeably, renovation of the Brookings Interpretive Center begins this fall (see page 9) as part of our *Garden for the World* campaign. Whether it's through the expansion and enhancement of one of our popular year-round attractions for school groups and families or bringing the power of plants to those who can't visit us (see page 17), the Garden is committed to providing educational opportunities for visitors of all ages and abilities to engage with, learn about, and love plants.



Dr. Peter Wyse Jackson,
President

Did you know?

Your membership provides critical support for our international and local plant science and conservation work, and Garden memberships contribute 20% of our annual operating funds.

Plus, as a Garden member:

- You receive free admission for two adults and all children (12 and younger) at Shaw Nature Reserve and the Butterfly House.
- Special Member Days offer you exclusive activities, tram rides, and discounts in the shops and café.
- The Children's Garden is free to you all day Tuesday (April–October).
- You are eligible for free or reduced-price admission to over 300 botanical gardens and arboreta across the U.S. and Canada.

Visit **www.mobot.org/membership**, email **membership@mobot.org**, or call (314) 577-5118 to learn more.

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*deceased

Hours and Admission

For our current hours and admission prices at our three locations, visit **www.mobot.org**, **www.butterflyhouse.org**, and **www.shawnature.org**.

Contact

Missouri Botanical Garden
4344 Shaw Blvd., St. Louis, MO 63110
(314) 577-5100 • www.mobot.org

On the Cover

Stiff goldenrod (*Solidago rigida*), a Missouri native that blooms in the fall. Find this and many other native species at Shaw Nature Reserve. Photo by JJ Mueller.

Credits

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photo by Nathan Wagner

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To discover and share knowledge about plants and their environment in order to preserve and enrich life.

– mission of the Missouri Botanical Garden

News

In Memoriam: Blanton Whitmire and Leo Drey

The Missouri Botanical Garden honors the lives of philanthropists Blanton Whitmire and Leo Drey, who both passed away in May.

Blanton Whitmire was a well-known businessman, World War II veteran, and supporter of a variety of causes and organizations. He was president of Whitmire Research Laboratories, an innovator in the pest-control field, particularly regarding environmental concerns.

At the Garden, Blanton is best known for his extraordinary involvement with Shaw Nature Reserve. He and his wife Margaret "Peg" Whitmire became members of the Garden in 1974 and connected with the Reserve on many levels. In the 1980s, Blanton worked with the Reserve to create the five-acre Whitmire Wildflower Garden to showcase the diversity of Missouri native wildflowers.

Originally conceived as a birthday gift for his beloved Peg, the Whitmire Wildflower Garden is enjoyed by thousands of Reserve visitors every year. It also hosts classes and programs all year long for casual gardeners, PhD-level researchers, and everyone in between. Throughout his life, Blanton continued to support the wildflower garden and other facets of the Reserve's work in science, conservation, and education.

Many members of the Reserve team consider him a friend, and he will be greatly missed.

Leo Drey was a savvy businessman, World War II veteran, and a passionate conservationist of Missouri's Ozark forests. In the 1950s, he purchased great swaths of Ozark timber land from lumber companies who frequently clear-cut the acreage. Leo, on the other hand, worked with forestry experts to manage the land by cutting individual trees. This selective use allowed the remaining trees to grow taller, thicker, and healthier, preserving the forest ecosystem.

With this great success, Leo helped form the Open Space Council in 1965 and the Missouri Coalition for the Environment in 1969. He was also instrumental in the congressional establishment of the Ozark National Scenic Riverways national park. He acquired and protected significant national areas that became state-managed historic sites and parks.

Leo and his wife Kay, a prominent environmental, civil rights, and anti-nuclear activist who partnered with him on many initiatives, have also been members and donors to the Garden for more than 50 years.

Garden Receives Grant for Pilot Conservation Project

This year, the Garden launched the project "Developing the Approach to Identify High-Conservation Value Areas for the Flora and Vegetation of Gabon." The project benefits from the support of the Prince Albert II of Monaco Foundation (**www.fpa2.com**), which awarded the Garden 200,000 euros (or $222,000 USD) to identify areas of conservation importance based on the botanical data gathered and analyzed by Garden researchers.

The three-year project will also have a broader impact for Gabon's conservation efforts. The approach can be applied to primates, birds, and other elements of the country's biodiversity to develop a national conservation analysis. "This model will serve as the pilot for doing this at an individual country level or even at a regional level," says Dr. Pete Lowry, Senior Curator and Director of the Africa and Madagascar Program at the Garden. "With this information, governments can make decisions related to establishing national parks and which parts of forestry concessions to set aside for conservation."

With about 650 endemic species of the 4,500 recorded to date, Gabon has a rich flora. However, it is estimated that the total is close to 7,000 species—many unknown to science and waiting in unexplored areas. The Garden's program aims to document the country's botanical diversity and assist in production of the *Flora of Gabon* in collaboration with the National Herbarium of Gabon and the Herbarium of the Botanic Garden Meise in Belgium.

The project is co-funded by the Garden, the World Wildlife Fund, the Wildlife Conservation Society, and the Université Libre de Bruxelles, where Assistant Curator and project coordinator Dr. Tariq Stévart is based.



Dr. Croat has collected more than 100,000 specimens in the field and built up the world's largest collection of Araceae at the Garden. (photo by Kat Niehaus)

Dr. Tom Croat Receives NSF's OPUS Grant

Earlier this year, the National Science Foundation (NSF) awarded Dr. Tom Croat, P.A. Schulze Curator of Botany at the Garden, a $105,135 grant under its Opportunities for Promoting Understanding through Synthesis (OPUS) program. OPUS's goal is to compile a body of related research projects done over an extended period of time. In Dr. Croat's case, it means gathering all the information he's collected for more than 50 years to describe about 3,000 species of plants, mostly from Araceae.

The aroid family is highly sought after for ornamental purposes. It is also an important tool in teaching biology due to the many unique features the plants exhibit, such as the production of heat and a wide array of flower types and pollination systems. "In all the years I've been working with aroids, I can say that I can't go anywhere without finding new species," Dr. Croat says. "It's astonishing how many there are and how many are still undescribed."

While they are rich in species, aroids are also highly endemic. "Many species are going extinct—some new to science—and the only way to conserve them is to protect the forests where they live," he says.

The project will produce taxonomic descriptions of an estimated 2,700 species of *Anthurium* and *Philodendron*, which are the two largest Araceae genera and make up about 45% of the entire family. Dr. Croat will also train botanists in Latin America who are interested in aroids.



Anadabolava–Betsimalaho Thicket, one of the new protected areas included in the new decrees, is one of the Garden's conservation sites in Madagascar. (photo courtesy of Dr. Chris Birkinshaw)

Protecting Madagascar's Priority Areas

The government in Madagascar recently issued a series of decrees formally establishing 94 new protected areas. Of those, 41 were originally identified by the Garden more than 10 years ago as priorities of plant conservation. The decrees come as part of the government's effort to triple the size of conservation areas in the country. "This is an important step forward for conservation of both species and landscapes in Madagascar," says Senior Vice President of Science and Conservation Dr. Jim Miller. "The Missouri Botanical Garden has been involved throughout the process working with local partners to advocate for protection and develop management plans."

After identifying the areas, the Garden became directly involved in working to conserve the most important ones by establishing 12 new reserves over the years. The Garden continues to collaborate with local communities to oversee their management.

News cont.

Garden Honors Volunteers

The Garden would not be the world-renowned institution it is today without its dedicated volunteers. In 2014, more than 1,800 people volunteered more than 148,000 hours of service at the Garden—the equivalent of 76 full-time staff.

The Garden celebrated this remarkable service during the Volunteer Appreciation Evening on May 18 and the Volunteer Service Recognition Luncheon on June 3. "We couldn't run the Garden, the Butterfly House, or Shaw Nature Reserve without you," Garden President Dr. Peter Wyse Jackson told the group at the luncheon. "It is thanks to you that so much of our work is possible." To learn more about volunteer opportunities, please visit **www.mobot.org/volunteer.**



30 years–Rosemary Murphy, Dr. Peter Wyse Jackson, and Suze Stark; not pictured: Jean Beck



40 years–Joanne Fogarty, Dr. Peter Wyse Jackson



20 years–back row, from left: Elaine Bante, Virginia Horrell, Dick Cone, Mary Jo Nowobilski, Irene Hercules, Dave Horton, Don Kinsey, Dr. Peter Wyse Jackson, Marilyn Chryst, Lucyann Boston, Todd Schroeder, Mary Smidt, Gordon Gosh; front row, from left: Judy Lincoln, Suzanne Moak, Angie Menard, Sonya Kendrick, Virginia Noe, Sophie Connor, Maud Jeanty, Bernice Raineri; not pictured: Jim Schuck, Lynn Slackman, Leigh Walker.

Garden and Danforth Center Holding Joint Symposium

This fall, for the first time since its inaugural symposium in 1953, the Garden will join the Danforth Plant Science Center and host a joint symposium titled "From Darwin to Borlaug: Biocomplexity in Natural and Agricultural Systems." It will be the 62nd annual and 17th annual symposia for the Garden and the Danforth Plant Science Center, respectively.

The event, happening October 8–10, will consist of 16 talks, half of them taking place on the Danforth Plant Science Center's campus in Creve Coeur on Thursday



10 years–front row, from left: Loretta Claes, Judy Headley, Mary Neher, Sally Carpenter, Jim Davis, Dr. Peter Wyse Jackson, Lynda Sharpe, Pat Jones, Arlene Nazzoli, Mike Schade; back row, from left: Lee Erickson, Gail Cammarata, Frank Frawley, Christopher Schulte, Ann Tansey, Jan Moran, Carol Agatstein, Marlena Gregory; not pictured: Betsy Alexander, Bonnie Bailes, Barbie Brueggemann, Cynthia Corley Crapsey, Holly Currier, Suzanne Dorris, Gina Fusco, Katie Garner, Ann Gulick, Peggy Knippel, Anna Leavey, Frank Luechtefeld, Patty Mendicino, Mary Mertz, Jon Newell, Lucy Ryan, Kathy Simons, Anna Thornhill, Linn Wells (photos by Ryan Lay)

and part of Friday, and the other half taking place at the Garden on Friday evening and Saturday.

The talks will cover a wide range of topics, each presented by one expert in agriculture and one in natural populations. "In general, we don't have the same audience, but we know we can learn a lot from each other," says Dr. Peter Hoch, Garden Curator and lead organizer of the Garden's symposium. "This joint symposium will allow us to bring together groups of people that don't often get together." For more information, visit **www.mobot.org/symposium**.

Japanese Festival Celebrates Anniversaries

This year's Japanese Festival will commemorate two key milestones. The Niji Choral Group is celebrating its 25th anniversary, and this year's performance will include well-known songs featuring Japanese instruments such as the *Koto*, *Shamisen*, and *Jabisen*.

The Kimono Show will celebrate its 30th anniversary. For those three decades, one person has been the force behind the exhibition: Ms. Hatsuko Eilers. "Few festival participants have contributed so much time, effort, and expertise," says Dave Lowry, Chairman of the Japanese Activities Committee. "Ms. Eiler's unfailing charm, grace, and commitment will remain a lasting legacy to the Garden."

Don't miss the Japanese Festival this Labor Day weekend! Visit **www.mobot.org/japanesefestival** for tickets and event information.



Susan Raney, Science Curriculum Specialist for St. Louis Public Schools, planted milkweed in the Garden's monarch garden as part of the community workshop. (photo by Ryan Lay)

Milkweeds Bringing Communities Together

This summer, the Garden hosted the 2015 Milkweeds for Monarchs Community Workshop in partnership with the City of St. Louis, the Saint Louis Zoo, and BiodiverseCity St. Louis. More than 75 local educators and community leaders participated in this one-day event to envision their neighborhoods as nature-rich places. "Schools are usually hubs within their community, so we wanted to bring together both educators and local neighborhood stabilization specialists to share different perspectives of what's important for their community through the lens of a natural habitat," says Sheila Voss, Vice President of Education.

The event was part of the capacity-building efforts of Milkweeds for Monarchs: The St. Louis Butterfly Project, and activities included the planting of a monarch garden on Garden grounds and information sessions about monarchs, butterfly-attracting plants, and citizen-science opportunities. "I feel more confident to spread the word in my community about the importance of milkweeds and share with them that this is healthy for the environment and beneficial to everyone," says Joe Jones, Neighborhood Improvement Specialist for the City of St. Louis's 1st Ward. Attendees also walked away with lesson plans and maps showcasing existing community assets and potential plans to be a part of this city-wide effort.

The workshop, along with school/community monarch garden installations and programming throughout the coming year, is supported by a grant from the U.S. Fish & Wildlife Service.

Updated Display Gardens Offer Native Alternatives

Visitors walking through the south end of the William T. Kemper Center for Home Gardening will notice a few changes starting the fall. First, the middle section of the Lucy and Stanley Lopata Prairie Garden will feature shorter variations of native plants instead of the tall prairie grasses. "Opening up the space allows us to present these plants in a more ornamental fashion to our visitors and for homeowners," says Horticulture Supervisor June Hutson.

News cont.

A glade will also go where the Suzanne Stagg Wright Rock Garden is currently located. Plants from the adjacent prairie were spreading quickly to this garden, and since they are not native to that ecosystem, Hutson explains, it was decided to turn it into a glade. "The plants in a glade and a rock garden are not far apart natively," she says. "The new garden will appeal to people who live in areas with more rocks than soil and will give them an idea of what they can plant." A subsurface of rock will be installed this fall, and wild-collected plants will be added in the spring.

New Tower Gardens Showcase Aeroponics

Thanks to the generosity of the St. Louis Master Gardeners, the William T. Kemper Center for Home Gardening added two Tower Gardens, one in the vegetable garden and one inside the center.

The Tower Gardens use aeroponics, a method to grow plants in an air/mist environment without soil. With this system, air and a tonic mineral blend are pumped through the tower every 15 minutes, covering the plants' roots and the growing medium they're wrapped in. "We've had many people interested in them since we installed them in mid-June," says Glenn Kopp, Master Gardener and Manager of Information Services. "We had heard good reviews and wanted to try it to be able to share our results with people who are interested in gardening, particularly in an urban environment."

News from the Garden's Other Important Collections

In addition to having one of the world's most diverse living collections, the Garden also houses world-renowned library and herbarium collections that are crucial to advance its mission. Recent news includes:

- The Peter H. Raven Library published its first e-book earlier this year, titled *Wildflowers and Landscapes of Ecuador: The Way We Knew It*. The project evolved from a donation of artwork and an unfinished manuscript by artist Mary Barnas Pomeroy from her daughter Anne Hess. To read the e-book and learn more, visit **www.biodiversitylibrary.org**.
- In May, the University of Missouri–Columbia (MU) announced that it would be moving its entire herbarium collection to the Garden. MU's Dunn-Palmer Herbarium contains nearly 200,000 specimens, all of which will be moved to the Garden this fall.
- During recent efforts to scan and digitize the herbarium's plant specimens, Senior Data Processor Donna Herrera discovered a specimen dated 1692. The *Anemone vernalis L.* was collected by German botanist Jacob Breyne, and it is now believed to be the oldest specimen in the Garden's herbarium—at least 50 years older than anything else known to be in the collection.

Gardening Q&A



When should I fertilize my trees and shrubs?

Most landscape trees and shrubs do not need yearly fertilization. If in doubt, consult a professional and have a soil test performed to determine available nutrients before applying fertilizers.

If fertilizing is required, the best times to fertilize are late fall and early spring. For fall fertilization, wait until the plants are dormant. For deciduous plants (those that lose their leaves in fall), this means waiting until the leaves have turned color and begin to drop.

Do not fertilize trees and shrubs from mid-summer to early fall. This may stimulate late-season growth, which is more easily killed in the winter. Also, stimulating growth late in the season may interfere with the plant's dormancy process, thus increasing the risk of winter injury.

If you fertilize your lawn, trees within that area generally receive sufficient fertilizer. Before adding more fertilizer, run a soil test and check the trees' annual growth. Mature trees should put on 4 to 6 inches of new growth each year, while young trees should put on a minimum of 9 to 12 inches.

Get more fertilizing tips with our gardening advice, tips, and resources available at **www.mobot.org/gardeninghelp**.



All renderings and drawings, provided by Christner and JCO, are proposed and are considered an artist's rendering for conceptual purposes.

The renovated space will enhance educational opportunities and visitor experience through interactive activities and exhibits designed to inspire love for nature.

TAKING THE FAMILY-FAVORITE BROOKINGS INTERPRETIVE CENTER INTO THE FUTURE

The Brookings Interpretive Center opened in 1990 during the Climatron® renovations. It was built with support from the relatives of the late Robert Somers Brookings, the prominent 19th-century St. Louis businessman and philanthropist. Today, as the Garden's indoor, year-round, family-friendly destination, it encourages hands-on discovery, exploration, and learning. Since 2008, it has hosted annual innovative and interactive exhibits, with more than 120,000 visitors enjoying its educational games, reading nooks, craft tables, and costume play areas each year.



The entrance vestibule will feature an interactive wall where visitors, having just immersed themselves in nature inside the Climatron, can create a symphony of nature sounds.

After more than 20 years, however, its infrastructure and facilities needed to be enhanced and upgraded. That is why, starting this fall, the 4,300-square-foot center will temporarily close for renovations and expansion. The project is one of the major capital initiatives of the *Garden for the World* campaign.

Thanks to a lead gift by Edward Jones, the new space will reopen next spring with state-of-the-art exhibit space and a brand-new PlantLab (see page 13). A new vestibule area, designed to make visitor experiences more comfortable and accessible to everyone, will feature barrier-free restrooms, a family restroom, vending machines, and a Calming Corner that will serve as a place for families with children needing quite time and a comfortable room for nursing mothers.

RENOVATION AT A GLANCE

- Brookings Interpretive Center closes in late September and reopens in the spring of 2016.
- Climatron (see page 16) and Temperate House remain open to the public.
- Main entrance to the Doris I. Schnuck Children's Garden will be closed. From the start of the renovation through November 1, the west gate by the restroom building will serve as the temporary entrance, and admission to the Children's Garden will be free.
- William T. Kemper Center for Home Gardening accessible through alternate path.
- Other indoor learning and gardening alternatives include Tower Grove House, Linnean House, Climatron, Temperate House, and the Center for Home Gardening.



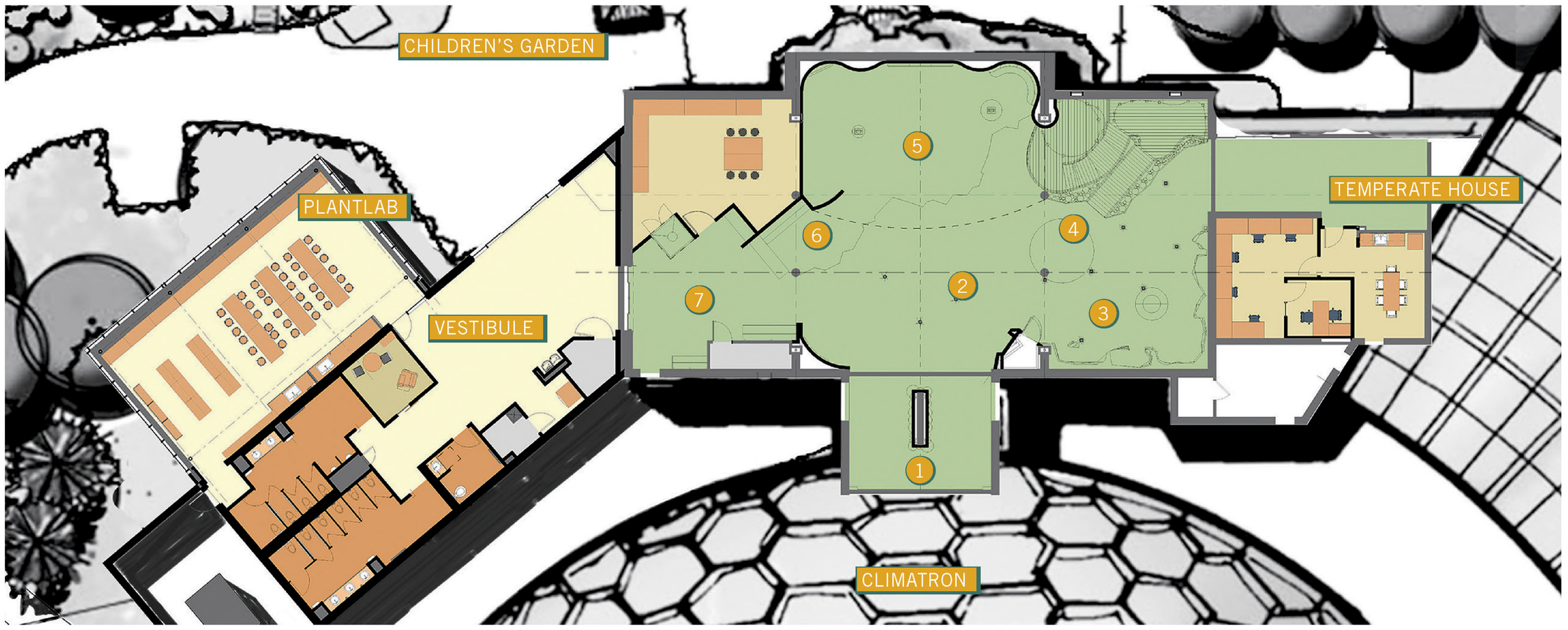
The Roots zone will allow visitors to learn how roots absorb water and nutrients from the soil and explore an animal exhibit about the creatures that live underneath our feet.

STRONG ROOTS

Jennifer Wolff, Interpretation Manager at the Garden, has been thinking about this project since 2003. She and her team of educators have been in charge of the Brookings Interpretive Center for more than 10 years. When she first started overseeing its operations, the center had had a permanent exhibit since 1995. *Paradise Is Being Lost*, as the exhibit was called, was self-guided and didn't change from year to year. When it opened, it had the latest technology—touch-screen computer kiosks, video monitors, displays featuring living animals and plants, and interactive panels. "It was high-tech but low-touch," Wolff says. "Today, we know from many studies that kids learn more by doing, and while technology is valuable, it is just one of many tools we use to engage visitors. We want to cultivate a participatory learning community for visitors where they are encouraged to create, interact, ponder, discuss, and share with each other instead of just reading panels on a wall."

In 2008, the Garden debuted its first temporary exhibit, *Exploring Trees Inside and Out*, in collaboration with the Arbor Day Foundation and Dimensions Educational Research Foundation. After that, Wolff says, the Garden started thinking about the potential for that space, including the possibility to host its own unique exhibits every year. In 2009, with the support of Maritz, the Garden opened an interactive exhibit called *EarthWays: Living the Green Life*. Since then, Wolff's team of staff and volunteers have developed, constructed, and installed annual exhibits to the public's delight.

Using the zoning approach from the 2009 display, each exhibit since then has had dedicated spaces—a maker area, a reading area, an interactive costume play area, and a building area—to encourage families to engage with plants in unique ways and learn more about the world around them. The format has been a huge hit, Wolff says, and the renovated space will continue that tradition with different zones to experience nature.



The PlantLab and vestibule area will be added to the existing footprint, and the seven existing zones will be reimagined.

AN IDEA BECOMES REALITY

Through the years, the Interpretation Team has listened to visitor feedback. The anecdotes and comment cards have been an underlying guiding principle throughout the planning process because, Wolff explains, "the space really is for them."

When the newly renovated space opens in the spring, visitors will enjoy seven reimagined zones:

1. **Nature Sounds:** A place to discover the sounds of nature through an interactive tree-trunk sound wall.
2. **Natural Connections:** The central gathering space that will also feature drop-in educational activities.
3. **Roots:** The space to explore what goes on below the surface and the creatures that live underneath our feet.
4. **Family Tree:** A multi-level area with comfy spaces for reading together, playing games and puzzles, and relaxing.
5. **Garden Theater:** An interactive digital space with a dedicated collection of curiosities from the Garden.
6. **Maker Space:** A cozy area for nature-inspired tinkering—building, drawing, and crafting.
7. **Plant Studio:** The space to explore nature in your community and enjoy animal displays, including the original ant exhibit.



Nature in Your Neighborhood opened in 2014 and has been so popular with visitors that it will inspire some of the activities in the new space. (photo by Dan Brown)

The new zones will give the Garden the opportunity to explore a wide variety of educational experiences that focus on plants, the places they grow, how we rely on them, and the importance on protecting them. "We want to keep visitors excited about exploring the world of plants," Wolff says. "Given the interest and excitement visitors have expressed with our current exhibit, *Nature in Your Neighborhood*, we want to keep that inspiration going in our new space." Activities and displays will rotate periodically so visitors always have fresh, fun activities to enjoy with every visit. Wolff and her team also encourage visitors to share their ideas either in person or online at **www.mobot.org/brookings**.



The new PlantLab will allow visitors to learn about plants in a greenhouse-like setting and provide easy access to Garden grounds to expand the learning experience beyond the classroom.

The new Brookings Interpretive Center will also feature the PlantLab, an 1,100-square-foot greenhouse-like classroom designed to be a four-season learning space. After all, what better classroom setting to learn about plants—how they grow, the soil they need, how they use light—than a greenhouse? "The PlantLab will enable participants of all ages, backgrounds, and abilities to get hands-on with plant science," says Vice President of Education Sheila Voss, "taking inspiration from the plant science conducted every day at the Garden in the areas of horticulture, conservation, genetics, ecological restoration, and more." The classroom will also have easy access for students to go outside and continue learning about plants on Garden grounds.

THE DREAM COMES TO LIFE

After 15 years working at the Garden, Wolff sees this project as one of the most gratifying ones of her career. "It's so rewarding to see it come to life and have the opportunity to engage so many visitors and inspire them to keep loving plants, to get outside and enjoy nature, to get their hands dirty, and to tell us what they know and think," she says. "I would've never thought when I was a kid growing up at the Garden that I would've been able to make a difference like this. I can't wait to see visitors in the new space."

Get Involved! Support the renovation of the Brookings Interpretive Center by making a donation at **www.mobot.org/brookings.** There, you can also follow the project's progress through photo updates and share your ideas with the Interpretation Team as they plan the new educational experiences.

GARDEN *for the* WORLD
capital campaign

This spring, we shared a $1.2-million goal to reopen Henry Shaw's Museum. Since that time, hundreds of members and donors have contributed to this historic project. We have raised nearly $700,000 toward this goal thus far. If you have contributed to this success, thank you!

If you haven't yet participated, consider making a gift and having your donation matched by Garden members Greg and Priscilla Evans. They have pledged $1 million as a challenge match to reopen Shaw's Museum. Make a gift today, double your impact, and help us reach the goal—and then some!

Every donation to reopen Shaw's Museum contributes to the total campaign goal. We have raised more than $95 million toward our total campaign goal and are nearing completion of the campaign. Each gift truly makes a difference.

To donate or to learn more about the campaign projects, please visit **www.mobot.org/fortheworld**.

A SPECIAL THANK YOU

for your support of the Brookings Interpretive Center renovations:

Edward Jones, Mr. and Mrs. William A. Gilbert, Dr. Ann J. Johnanson, John and Anita O'Connell, Nora Stern and the Driver and Gleason Families, the Garden's Members' Board and alumni, and the Garden's Young Friends Council and alumni.

Butterfly House



From literary classics to live butterflies, the Bookworm Breakfast series lets kids learn about the butterfly's life cycle and migration patterns. (photo by Flannery Allison)

Breakfast, Books, and Butterflies

"The park looked different. There were leaves all over the ground. Clifford couldn't chase the birds. They were flying south." Many adults will recognize these lines from *Clifford's First Autumn*. They may have read it when they were kids and might now be reading it to their own. The children's classic is one of the new, fun ways the Sophia M. Sachs Butterfly House is engaging kids with the joys of reading and fascinating facts about the natural world around them.

Through the Bookworm Breakfast series, the Butterfly House invites children and their caregivers to visit and learn about the exciting things happening in nature this time of year. The temperature is falling, trees are losing their leaves, birds and butterflies are migrating south—all part of nature's seasonal cycle. "As part of our education programs, we like to promote literacy, family time, and connecting kids to nature experiences," says Jennifer Mullix, Manager of Visitor Services and Volunteers at the Butterfly House. "The family dynamic at these events is great! Grandparents, aunts and uncles, friends—they all have a great time."

The Butterfly House introduced the first bookworm breakfast event last summer with Eric Carle's *The Very Hungry Caterpillar*. Visitors loved it, Mullix says, so this summer the Very Hungry Caterpillar returned, and Norman Bridwell's Clifford the Big Red Dog will visit this fall. At the event, visitors will enjoy breakfast, enjoy readings of *Clifford's First Autumn*, and learn about fall migration with butterfly crafts made out of fallen leaves. "We've been expanding our offerings for young children for the past few years," Mullix says, "and promoting literacy along with our other education opportunities was a natural fit. We're always looking for new, exciting learning opportunities for our visitors."



Bookworm Breakfast

Clifford the Big Red Dog
November 6 or
November 7; 9 to 10 a.m.
Butterfly House

Join Clifford the Big Red Dog, meet live butterflies, listen to a story, and explore interactive craft stations. Reservations required. Free for ages 12 months and younger. $12 members; $16 nonmembers. Register at **www.butterflyhouse.org**.

Shaw Nature Reserve



With 2,400 acres of natural habitats to explore, this fall the Reserve will host the 10th Academy of Science-St. Louis BioBlitz, a community-led effort to document its rich biodiversity.

Cataloging Life at the Reserve

It's hard to determine the reason the wood frog (*Lithobates sylvaticus*) went extinct in Missouri in the early 20th century. If it hadn't been for the single pond in Warren County that the Missouri Department of Conservation found where they still mated, this diminutive frog may have never been able to find its home in the St. Louis region again.

Populations of wood frogs now call Shaw Nature Reserve home. Restoration biologist Dr. James Trager and horticulturist Terri Brandt reintroduced them to the wetlands in 2003 after approaching Dr. Owen Sexton from Washington University's Tyson Research Center. Dr. Sexton had successfully re-established wood frog populations at the Center and knew the Reserve would be the perfect place to expand these restoration efforts.

Today, Reserve visitors can find the wood frog, whose color looks like dry oak leaves, along the wetland trails and hear its distinct song among the numerous spring peepers that live at the Reserve. It is one of the many species that hundreds of volunteers will find during the 10th Academy of Science–St. Louis BioBlitz, which the Reserve will host this fall. The event focuses on doing an inventory of as many species as possible in a local natural area over a specific period of time. "We've been wanting to do a bioblitz here for quite some time because we want to get a handle on our biodiversity," says Lydia Toth, Senior Education Manager at the Reserve. "While we can't cover all 2,400 acres, this event will kick off our efforts to combine all our existing data and provide one database with what you can expect to find here."

Volunteers from across the area—from students to families to nature enthusiasts—will survey the Reserve with the help of local experts, which include botanists, herpetologists, and entomologists. As part of their experience, participants will document their findings using **www.inaturalist.org**. The website allows anyone to create a project to map the species in a particular area, merging outdoor exploration time with technology, mapping, and citizen science. "We are very excited," Toth says. "This event is a great way to get families engaged in nature and science."

Join us! Be a part of the BioBlitz at the Reserve September 18 and 19. The event is free and open to the public. Learn more and register by visiting **www.academyofsciencestl.org**.

Horticulture



Visitors are transported to the tropics in the Climatron, the geodesic dome greenhouse with some of the Garden's most precious living specimens. (photo by Paul Straatmann)

Tropical Haven Under the Dome

When former Garden Director Frits Went commissioned the Climatron® in 1959, he envisioned a structure that would be a center of scientific research on plant growth under controlled conditions. Tasked with reviving the Garden's international reputation as a leader in plant research, he saw the Climatron as a way to both advance the Garden's mission and create a memorable icon for visitors. But he didn't want just any greenhouse; he wanted a large, column-free structure that admitted as much daylight as possible.

Architects Joseph Murphy and Eugene Mackey, Jr. determined that R. Buckminster Fuller's geodesic dome was the best way to enclose this new greenhouse. When it opened on October 1, 1960, the Climatron became the first geodesic dome greenhouse in the world. Today, this 24,000-square-foot conservatory continues to dazzle visitors while playing an important role in maintaining the Garden's living collections.

At an average temperature of 85 °F with 85% humidity, the Climatron transports visitors used to the Midwestern seasons to the lush world of the tropics. While it can't house the countless species that make up the tropics, the Climatron is a great introduction to the world's most diverse ecosystem. "People are always surprised by how pleasant it is in here and by how tall the trees are," says Senior Horticulturist Deb Lalumondier. She and her team oversee the day-to-day operations and care for the 1,400 species that live in the Climatron. Many of these specimens have been collected in the wild by Garden researchers, and some are considered extremely rare or in danger of extinction.

As one of the most significant conservatories in North America and one of the few places in St. Louis to experience the tropics, it helps advance the Garden's mission. "The Climatron is an important tool in our *ex situ* conservation efforts," says Andrew Wyatt, Vice President of Horticulture and Living Collections. "The living collections it houses give us the opportunity to link the Garden's conservation and research work in a beautiful and educational display."

Remember! The Climatron will remain open during the renovations of the Brookings Interpretive Center (see page 9).



The Therapeutic Horticulture Team engages participants in a hands-on flower-arranging activity to create displays with seasonal flowers. (photo by Kimberly Bretz)

The Therapeutic Power of Plants

Pressing the inked underside of a freshly picked lemon verbena leaf to the paper, Helen* smiles at the bookmark she is making. "I love the smell and texture of the leaves; this is so much fun," Helen says as Jeanne Carbone, a Therapeutic Horticulture Instructor, hands her a sprig of lavender to press next. The craft is part of a nature printing activity the Garden's Therapeutic Horticulture Program brings to the Siteman Cancer Center for patients like Helen to participate in during treatment.

Moments like these are common for Carbone, who offers patients and their families plants and plant-based activities that may give relief from physical and cognitive limitations, reduce stress, and stimulate memory. Her programs include a variety of activities that range from creating flower arrangements to making herbal sachets to just having the opportunity to touch, smell, and talk about plants.

Jennifer Smith, Public Programs Manager of Education at the Garden and a registered horticultural therapist, formally launched the Garden's program in 2006. "Plants can have a significant calming effect and can allow people to relax during a stressful time," she says. Thanks to the support of the E. Reuben and Gladys Flora Grant Charitable Trust and the Edward Chase Garvey Foundation, each year the program serves more than 3,000 adults and children. In 2015, the partnership with Siteman Cancer Center expanded to all its St. Louis-area campuses.

The program also continues to grow thanks to the support of Dave and Mary Tognoni. After volunteering alongside registered horticulture therapist Donald Frisch for a few years, Dave has seen firsthand the positive impact therapeutic horticulture has on participants. So last year, he and Mary set up a fund to support the program. "Henry Shaw established this Garden for everybody. Everybody loves it, but not everybody can come," he says. "Why shouldn't everyone be able to enjoy the Garden?" Thanks to their support, at least five additional senior living facilities now enjoy the benefits of therapeutic horticulture.

**name changed to protect privacy*

You can help! Learn more about the program, see a list of partner organizations, and donate at **www.mobot.org/horttherapy**.

Member Events

Member Event: Magical Miniature Gardens

Sophia M. Sachs Butterfly House; Sunday, September 13; 11 a.m.–1 p.m.

Join us for miniature garden fun! Learn how to create your own special landscape and see professionals display their work. Reservations required. Light snack provided. Plus, members receive additional 10% off in the Butterfly House Gift Shop.

Member Day: Art and Science

Tuesday, September 22; 6 p.m.; Ridgway Visitor Center

Members can enjoy an in-depth look at the photo exhibit "Art and Science in the Garden for the World." Explore the exhibit of plant drawings from the rare book room as you meet and talk with Garden scientists. Cash bar available. Reservations required.

Best of Missouri Market Members-Only Shopping Hour and Breakfast

Saturday, October 3; 8 a.m.

Members get to enjoy breakfast as they shop from 8 to 9 a.m. before the crowds. Join or renew your Garden membership at the Market and get in free! More than 120 food producers and crafters offer baked goods, fresh and dried flowers, herbs, handcrafted items, baskets, wooden toys, custom jewelry and more. Enjoy live music and a kids' corner with crafts and fall activities, too!

Member Day: October Owls and Orchids

Sophia M. Sachs Butterfly House Monday, October 5; 5:30–7 p.m. Sponsored by Renewal by Andersen.

See over a thousand owl butterflies in flight through the orchid-filled Tropical Conservatory. Take a guided tour with our entomologists and enjoy a special live owl flight show. Reservations required.

Fest-of-Ale

Friday, October 16; 6–9 p.m.

Join the Young Friends of the Garden for the eight annual Fest-of-Ale, and enjoy offerings from the region's microbreweries, hors d'oeuvres, and live music. $30 members; $40 nonmembers; $5-increase after Sept. 16. Advance ticket purchase required.

Member Event: Ghouls in the Garden

Sunday, October 25; 1 p.m. Presented by Macy's.

Bring your costumed kids for themed trick-or-treating through the Garden. Includes admission to the Children's Garden. Reservation times: 1, 1:30, and 2 p.m. $5 member children ages 3–12. Advance ticket purchase required.

Member Day: Holiday Decorating

Thursday, November 5; 11 a.m.–noon; Shoenberg Theater

Scott Hepper from Walter Knoll Florist offers tips and demonstrations to help you decorate your home for the holidays. Reservations required; space is limited.

Garden Glow Member Preview

Friday, November 20; 5–9:30 p.m.

This special members-only preview includes both Garden Glow and Gardenland Express. Timed tickets available. $12 member adults; $6 member children. Advance ticket purchase required. Enjoy 20% off new, renewing, or gift memberships at the event.

Holiday Wreath Display and Auction

Saturday, November 21, 2015–Sunday, January 3, 2016; Ridgway Visitor Center

This annual holiday exhibit features unique creations donated by some of the area's finest floral designers. Wreaths are sold by silent-auction bidding, with proceeds benefiting the Garden. Included with Garden admission.

Member Day: Winter Jewels

Sophia M. Sachs Butterfly House; Monday, November 30; 10 a.m.–noon

Enjoy the warmth of the Tropical Conservatory and the beauty of jewel-toned butterflies. Go on a treasure hunt, discover fairies, encounter a gnome, and participate in special activities. Reservations required.

Event information and registration at (314) 577-5118 or **www.mobot.org/memberevents** unless otherwise noted.

Shop & Dine

First Fridays–NEW!

First Friday of the month; Garden Gate Shop
Visit us every month and discover something new—from book signings to food samplings to trunk shows. More information at **www.mobot.org/shop.**

Spring Bulb Sale

September 13–November 15; Garden Gate Shop
Now is the time to stock up and plant next spring's beautiful bulbs!

Sidewalk Sale

September 17–20; Butterfly House Gift Shop
Get a head start on your holiday shopping with a wide selection of discounted items.

Member Days Sale

September 24–28; Garden Gate Shop, Butterfly House Gift Shop, and Little Shop Around the Corner
All Garden members receive 20% off purchases in the shops during this five-day special sale.

October Owls & Orchids Sale

Tuesdays and Thursdays in October; 4:30–7 p.m. Butterfly House Gift Shop
During Owls & Orchids Animal Encounters, visitors enjoy 10% off shop items. Members receive an additional 10% off as well.

Member Days Sales

October 16–17 and November 20–21; Garden Gate Shop, Butterfly House Gift Shop, and Little Shop Around the Corner
All Garden members receive 20% off purchases in the shops.

Terrarium Tuesdays

October; Garden Gate Shop
Let our plant specialist help you create your own terrarium. You can also check out our Garden terrarium classes at **www.mobot.org/classes.**

Membership Sale

November 4–8

Enjoy 20% off new, renewing, or gift memberships, and a 20% discount at the shops. Visit the Membership Services Desk at the Garden, Butterfly House, and Shaw Nature Reserve; visit **www.mobot.org/membership**; or call (314) 577-5118.

Book Sale

November 6–7; Butterfly House Gift Shop
To celebrate Bookworm Breakfast with Clifford the Big Red Dog, visitors enjoy 10% off books; members get an additional 10% off.

Little Shop, Big Sale

November 19–21; Little Shop Around the Corner
Get 40% off everything in the store on Thursday, 50% off on Friday, and 60% off on Saturday.

Featured Item



HANGING TERRARIUM GLOBES

They're the perfect gift for anyone who likes natural beauty that needs minimal care and upkeep. Includes one air plant and the decorative element of your choice. The color and species of your air plant may vary based on seasonality. Get yours at the Garden Gate Shop today.

CAFÉ FLORA

Brunch at Spink Pavilion
Sundays through October 25
www.mobot.org

Terrace Café open on weekends only (Fri.–Sun.; 11 a.m.–3 p.m.) after Labor Day.
Children's Garden, tram tours, and Terrace Café will close for the season November 1.

photo by Kerri Carter

Garden Gate Shop
4344 Shaw Blvd.
St. Louis, MO 63110
Monday–Sunday
9 a.m. to 5:30 p.m.
(314) 577-5137

Butterfly House Gift Shop
15193 Olive Blvd.
Chesterfield, MO 63017
Tuesday–Sunday
10 a.m. to 4 p.m.
(636) 530-0076 ext. 15

Little Shop Around the Corner
4474 Castleman Ave.
St. Louis, MO 63110
Tuesday–Saturday
10 a.m. to 4 p.m.
(314) 577-0891

The Story of the

Nature Explore Classroom



The climbing area in the Reserve's Nature Explore Classroom helps kids stay active and develop hand-eye coordination and gross motor skills. (photo by Kat Niehaus)

Many parents can relate: their child is glued to a screen as the day goes by, and the most physical activity they get is walking to the kitchen to grab a snack. To beat this trend, parents can turn to nature for inspiration and discover what it has to offer.

Enter the Nature Explore Classroom (NEC). A collaboration between the Arbor Day Foundation and Dimensions Educational Research Foundation, Nature Explore's mission is to engage children and families with the natural world as part of children's daily learning. The Garden and Shaw Nature Reserve each have a certified NEC, where kids can climb the red cedar bridges, create art with leaves and pinecones, or build a castle out of tree blocks. Research shows that by playing outside and with nature's "toys," children are not only having fun but also improving their observation, concentration, and motor skills.

Since they opened in 2007 and 2008, respectively, the NECs have been extremely popular with visitors of all ages. They provide a safe, enclosed space where caregivers can let children roam freely as they explore cozy little spaces for specific learning opportunities and interaction with nature—building, climbing, gardening, music and movement, etc. "These areas also showcase things that people can do in their gardens and encourage them to think about how they can incorporate these elements in their own backyards," says Jennifer Wolff, Interpretation Manager at the Garden. Thanks to the support of the Young Friends of the Garden, the Doris I. Schnuck Children's Garden and its NEC continue to thrive and grow.

At the Reserve, the NEC is a gateway to 2,400 acres of natural beauty, explains Lydia Toth, Senior Education Manager. This year, thanks to the generosity of the Ott Family, the Reserve's NEC will connect to the Sense of Wonder Woodland. "We're excited to provide families another area for little ones and invite them to take the next step to discover the rest of the Reserve," Toth says.

Join us! Celebrate with your family the Sense of Wonder Woodland on October 4 from 2 to 4 p.m. Information at **www.mobot.org/classes**.

Commemorative Gifts

April–June 2015.

A commemorative gift is a wonderful way to honor family and friends. Gifts of $50 or more are listed in the *Bulletin*. For more information about giving opportunities at the Missouri Botanical Garden, please call (314) 577-5118 or make a commemorative gift at **www.mobot.org/tributes**.

In Honor of

Hon. Terry I. Adelman
Kathianne and David Crane

Mary Ellen Bartells
Kim Grbac

May Breen
Fred and Deidre Banks

Claire Chosid
Michael and Laurie Vander Velde

Sue Collins
Barbara Pratter

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Carole Auer-Knight

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In Memory of

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Milad Abounader

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Bender Family

Members' Entry Court

April–June 2015.
For more information, call (314) 577-5118 or visit **www.mobot.org/donate**.

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Michael Pailer

Elaine Baden
Mr. Don Baden

Michele Barnes
Dawn Hoekstra

Jean and Tony Bockelman
A.J. Bockelman

Marie Gale Brand
Raymond Brand

Nick and Lois Birrittieri
Nancy Thompson

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Andrea Eftimoff

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Mrs. Patricia May

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Mitzie Schroeder
Nancy L. Hope
Lee Glaser
Carol Latimer

Susan Marie Sturm
Mrs. Ingrid Sturm

Helen Tennyson
Kemper Thursday Crew

Mary Tiona
Catherine and Dennis Nobbe

Butterfly House

April–June 2015.
Call (314) 577-5118 or visit **www.butterflyhouse.org/donate** to learn more.

Pavers

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Greg Follett

Mrs. Louise Barnard
Michael Wendell and Family

Barb Barnes
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Barry Boehm
Kathleen Dabrowski

Troy and Gay Hendrick
Mrs. Holly Bird

Forget Me Not Loved Ones
Mrs. Holly Bird

Jane Ellebrecht
Carolyn Buckeridge

Vanessa Jeannine
Maria Williams

William Moorman
Ms. Lucy Moorman

Barbara Rule Moorman
Ms. Lucy Moorman

Bene & Amy
Laura Slane

Laura Slane
Laura Slane

Marjorie Slane
Laura Slane

Raymond Slane
Laura Slane

Snickers & Smokey
Laura Slane

Braelynn Strong
Dr. Ellen Nicastro and Mr. Peter J. Nicastro

Kim Welch
Mrs. Alison Simmons

Commemorating a Life of Service: Mary Anne Lucas

Mary Anne Lucas lived as an example of generosity and shared her joyful outlook and warm smile with her family, friends, and community. She volunteered for more than 20 years with several organizations, including St. Louis Children's Hospital and the Garden.

When Mary Anne passed away earlier this summer, her family wanted to commemorate her spirit of generous service. She had a strong desire that no one send flowers to her family or church. Instead, her family looked for a meaningful opportunity to honor her wishes and her love for children and the Garden. They reached out to the Garden and established the Mary Anne Lucas Early Childhood Education Fund to celebrate Mary Anne, serve children, and connect them with nature. "Interest in education runs in the family," says Mary Anne's husband Gary. "She loved the Garden and she loved children, so it seemed like a good fit and a good thing to do."

All donations to the fund will be used to increase access to the Garden and its education offerings for young, underserved children in the community. "Connecting children with nature at an early age is critical," says Jennifer Smith, Public Programs Manager of Education at the Garden. "This fund will bring the Garden to these children in many ways."



photo by Christopher Gibbons

Research shows early access to nature has an incredible impact as young children grow.

Mary Anne's loved ones have embraced this unique opportunity to honor her, with more than $4,400 collectively donated at the time of publication.

To make a donation to the Mary Anne Lucas Early Childhood Education Fund or to learn about creating a commemorative fund to honor a loved one, contact **tributes@mobot.org** or (314) 577-5118.

Heritage Society



Ann Johanson: Continuing Family Tradition and Ensuring Growth

Sometimes, philanthropy is as much a family tradition as it is a personal decision. Dr. Ann Johanson is proud to support the Missouri Botanical Garden and continue the legacy of her parents, who were also longtime members and supporters as well as avid gardeners and travelers. They visited botanical gardens when they traveled and brought azaleas home.

Ann inherited their beautiful home garden along with their love for the Garden and other iconic St. Louis institutions. So she decided to carry on their legacy of giving. "Dad was the digger; mom was the planter," she says. "I have their love of both birds and flowers." She chose to honor their passions with bricks in the Members Entry Courtyard of the William T. Kemper Center for Home Gardening.

Ann is also sharing that legacy and love with the next generation. She makes a point of bringing her adult niece and nephews and their families to the Garden when they visit St. Louis. The Japanese Garden, *Seiwa-en*, is among her most favorite spots.

While Ann's love of nature has increased in her adult life, she understands the role of the natural world in the healthy development of children. "As a pediatrician, I have a particular attraction to children's health, growth, wellness, and development," she says. "I specialized in growth hormone deficiency, and you'll find interesting phenomena related to nature and children's health. For example, children grow more in the summer. Sunlight, outdoor activity, and exercise all contribute to healthy growth."

This interest in the connection between children's health and nature led Ann to make a gift to support the expansion and renovation of the Brookings Interpretive Center. The Garden is expanding this family-friendly destination to enhance children's education and provide interactive venues for hands-on exploration, learning, and play (see page 9). "Engagement is important, and I think a year-round opportunity for kids to play and learn in the Garden is great," she says.

Ann has also included the Garden in her estate plans as a member of the Heritage Society, ensuring her family's tradition of support will continue for many years to come. She found designating the Garden as a beneficiary of her retirement assets to be both accessible and sensible. "Giving from my IRA makes great sense," Ann says. "It maximizes my gift and protects my heirs. And it's important for me to contribute to organizations that use money wisely. I read annual reports; I want to know how and where contributions are spent. I have confidence in the Garden and the people who carry out the work I support. They're doing a good job, and I want them to continue to do a good job."

photo by Kristine Gruver



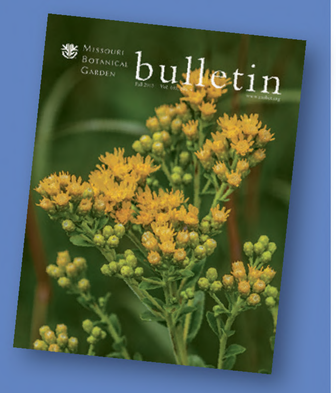
A Variety of Planned Gift Options at the Garden

Several members of the Heritage Society have chosen to list the Garden as a beneficiary on an insurance policy or retirement plan. This is one of the most popular forms of planned gifts. Other friends have included the Garden in a charitable bequest, gift annuity, or remainder trust. Each option offers a different set of benefits for both the donor and the recipient nonprofit.

To learn more about the most common types of planned gifts, visit **www.mobot.org/plannedgiving**. For more information about the Heritage Society or to discuss a planned gift, contact Joyce Pluhar at (314) 577-5199 or **plannedgiving@mobot.org**.

green today
greener tomorrow

Go Paperless, Go Green!



The Missouri Botanical Garden strives to make the most sustainable choices possible to benefit people, plants, and the planet. That's why we offer an interactive online version of the *Bulletin* as well as a downloadable PDF. Sign up for the new electronic versions by sending an email to **membership@mobot.org**. Let us know if you'd like to forego your paper subscription to save trees.

You can also send an email to **membership@mobot.org** if:

- ❑ Your name is misspelled
- ❑ Your address is incorrect
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BEST OF MISSOURI MARKET® & MORE

October 2—4
www.mobot.org/bestofmomarket

Sponsored by Commerce Bank, Edward Jones, The Home Depot, KLOU, Ronnoco Coffee Company, Schnuck Markets, Waterway Gas & Wash, and Wehrenberg Theaters.

Join or renew at the event and get in for FREE!

photo by Heather Maria Osborn

bulletin calendar

September | October | November



Best of Missouri Market & more

October 2–4

Sponsored by Commerce Bank, Edward Jones, The Home Depot, KLOU, Ronnoco Coffee Company, Schnuck Markets, Waterway Gas & Wash, and Wehrenberg Theaters.

www.mobot.org/bestofmomarket

MEMBERSHIP SALE

November 4–8

Enjoy 20% off new, renewed, or gift memberships. Plus, get a 20% discount at the shops. Visit the Membership Service Desk at the Garden, Butterfly House, or Shaw Nature Reserve; call (314) 577-5118; or visit **www.mobot.org/membership**.



Garden Glow

November 21, 2015–January 2, 2016

www.mobot.org/glow



Fest-of-Ale | October 16

www.mobot.org/events



JAPANESE FESTIVAL

30th Anniversary of the Kimono Fashion Show

SEPTEMBER 5–7

Labor Day Weekend

Sponsorship support by Nidec Motor Corporation, Novus International, and TOYOTA Bodine.

www.mobot.org/japanesefestival



Shaw Wildflower Market

September 11

at Shaw Nature Reserve

www.shawnature.org



October Owls & Orchids

Tuesdays–Sundays

at the Butterfly House

PLUS! Animal Encounters with owls from the World Bird Sanctuary

Tuesday and Thursday Evenings

www.butterflyhouse.org

Green Ball

November 6

Presented by Moonrise Hotel

www.mobot.org/greenball



Spirits in the Garden

October 30

www.mobot.org/spirits



September 2015

average temperature: low 61°, high 81°
average precipitation: 2.69 in.

What's in bloom?


Virginia creeper


Dahlia


Scarlet sage

9/5–9/7	**Japanese Festival** September 5: 10 a.m. to 8 p.m. $ September 6: 10 a.m. to 8 p.m. $ September 7 (Labor Day): 10 a.m. to 5 p.m. $
9/8	Butterfly House open Tuesday–Sunday, 10 a.m. to 4 p.m. *through Memorial Day 2016.*
9/11–11/1	Terrace Café open only on weekends, 11 a.m. to 3 p.m., *through seasonal closing on November 1.*
9/11	Shaw Wildflower Market, 4 to 7:30 p.m. SNR
9/13	Member Event: Magical Miniature Gardens, 11 a.m. to 1 p.m. ☎ BH
9/13–11/15	Spring Bulb Sale, GGS
9/17–9/20	Sidewalk Sale, BH
9/22	Member Day: Art and Science, 6 p.m. ☎ RVC
9/24–9/28	Member Days 20% Sale at the shops. GGS, BH, LS



FREE Garden Glow Climatron boxed card set with $100 purchase



Valid only for purchases made October 1 through November 30, 2015. One card set per purchase. While supplies last. See shop for details.

Garden Gate Shop

October 2015

average temperature: low 49°, high 69°
average precipitation: 2.81 in.

What's in bloom?


Chrysanthemum


Adam's needle


Japanese toad lily

10/1–10/31	October Owls and Orchids, Tuesday–Sunday, 10 a.m. to 4 p.m. BH Owls and Orchids Animal Encounters, Tuesdays and Thursdays in October, 4:30 to 7 p.m. $ BH Owls and Orchids Sale during Animal Encounters, 4:30 to 7 p.m. BH
10/5	Member Day: October Owls and Orchids, 5:30 to 7 p.m. ☎ BH
10/6	Terrarium Tuesday, GGS
10/2–10/4	**Best of Missouri Market & More** October 2: First Look Friday, 6 to 9 p.m. $ October 3: Members-Only Shopping Hour and Breakfast, 8 to 9 a.m. October 3: 9 a.m. to 5 p.m. $ October 4: 9 a.m. to 5 p.m. $
10/13	Terrarium Tuesday, GGS
10/16	Fest-of-Ale, 6 to 9 p.m. ☎ $
10/16–10/17	Member Days 20% Sale at the shops. GGS, BH, LS
10/20	Terrarium Tuesday, GGS
10/24	Booterflies, 5 to 7 p.m. ☎ $ BH
10/25	Member Event: Ghouls in the Garden, 1 to 3 p.m. ☎ $ *Presented by Macy's.*
10/30	Spirits in the Garden, 6 to 9 p.m. $
10/31–11/1	Doris I. Schnuck Children's Garden Seasonal Closing Weekend, 9 a.m. to 3 p.m. $ CHD



November 2015

average temperature: low 38°, high 54°
average precipitation: 4.06 in.

What's in bloom?


Azure monkshood


Eulalia


Black-eyed Susan

10/31–11/1	Doris I. Schnuck Children's Garden Seasonal Closing Weekend, 9 a.m. to 3 p.m. $ CHD
11/1	Children's Garden, tram tours, and Terrace Café close for the season
11/4–11/8	Membership Sale: 20% off new, gift, and renewed memberships, on-site MBG, BH, SNR; by phone at (314) 577-5118, or at www.mobot.org/membership.
11/5	Member Day: Holiday Decorating, 11 a.m. to noon ☎ ST
11/6–11/7	Bookworm Breakfast with Clifford the Big Red Dog, 9 to 10 a.m. ☎ $ BH Book Sale, BH
11/6	Sixth Annual Green Ball, 7 to 11 p.m. ☎ $ Moonrise Hotel *Presented by Moonrise Hotel.*
11/19–21	Little Shop, Big Sale: 40% off everything in the store on Thursday, 50% off on Friday, and 60% off on Saturday. LS
11/19–1/3	Victorian Christmas at Tower Grove House, Wednesdays through Sundays. 10 a.m. to 4 p.m.
11/20–21	Member Days 20% Sale at the shops. GGS, BH, LS
11/20	Garden Glow Member Preview, 5 to 9:30 p.m. ☎ $
11/21–1/2	Garden Glow, 5 to 9:30 p.m. $
11/21–1/2	Holiday Wreath Auction, 9 a.m. to 5 p.m. RVC
11/21–1/3	Gardenland Express, 9 a.m. to 4 p.m. $
11/27–1/3	Winter Jewels, 10 a.m. to 3 p.m. BH
11/30	Member Day: Winter Jewels, 10 a.m. to noon ☎ BH



Don't forget!



Best of Missouri Market & More Members-Only Hour

Saturday, October 3;
8 to 9 a.m.

Enjoy breakfast as you shop before the crowds. Join or renew your Garden membership at the Market and get in free!



Doris I. Schnuck Children's Garden Seasonal Closing

October 31–November 1;
9 a.m.–3 p.m.

Help us close out another season of fun with a weekend full of special activities, live music, and more!



Plant Societies Shows and Sales

Get the latest information about your favorite plant society's show and sale by visiting **www.mobot.org/plantsocieties.**

KEY (All events take place at the Garden unless otherwise noted.)

BH	Butterfly House	KC	Kemper Center for Home Gardening
BHGS	Butterfly House Gift Shop	LS	Little Shop Around The Corner
CA	Cohen Amphitheater	MC	Monsanto Center
CBEC	Commerce Bank Center for Science Education	MH	Monsanto Hall (in RVC)
CHD	Children's Garden	RVC	Ridgway Visitor Center
CL	Climatron lawn	SNR	Shaw Nature Reserve
GGS	Garden Gate Shop	SP	Spink Pavilion
JE	Jordan Education Wing (in RVC)	ST	Shoenberg Theater (in RVC)

Sassafras
Members-only event
20% Member discount at the shops
☎ Reservations required
$ Fee required

photos by (front) Heather Marie Osborn, Tom Incrocci, Josh Nezam, Mary Lou Olson, Jill Setlich, JJ Mueller, Hope Gribble, and Sonya Lalla. (this page) Lisa Francis, Nathan Wagner, Dan Brown, JJ Mueller, Heather Marie Osborn, and Jean McCormack.